GOETHE UNIVERSITÄT FRANKFURT AM MAIN

VERSION: 29 JANUARY 2018

# The erosion of political trust in the Great Recession


European Research Council

Established by the European Commission

## CORRODE WORKING PAPER #5

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This work represents original research by the authors. The authors gratefully acknowledge funding from the European Research Council under the European Union's Seventh Framework Programme (FP7/2007-2013, ERC grant agreement n° ERC-2013-CoG-615246-CORRODE). Neither the European Research Council nor the primary data collectors and the providers of the data used in this research bear any responsibility for the analysis and the conclusions of this paper.

We welcome comments and suggestions on this research, please contact the authors at:

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SUGGESTED CITATION:

Markus Gangl and Carlotta Giustozzi. 2018. The erosion of political trust in the Great Recession. CORRODE Working Paper #5. Frankfurt: Goethe University. Retrieved from www.corrode-project.org, version dated 29 January 2018.

www.corrode-project.org

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Abstract

We combine data from the 2002-2014 waves of the General Social Survey and the European Social Survey to examine the evolution of political trust during the Great Recession in the United States and 20 European countries. We present a theoretical framework for the impact of recessions on political trust that emphasizes a distinction between macroeconomic and microeconomic channels of influence, and we estimate hybrid multilevel models for time-series cross-sectional data to test some predictions from our model. Among working-age respondents, we find that both adverse macroeconomic conditions and personal experiences of unemployment generate negative effects on levels of political trust. Empirically, these two channels of influence operate independently of each other, rest on different mechanisms of evaluation, and generate different political consequences. Declines in trust that relate to personal experiences of unemployment are almost entirely driven by economic deprivation and personal dissatisfaction, and result in a broad pattern of political alienation. Declines in trust that respond to deteriorating macroeconomic conditions, however, reflect perceptions of political failure more than perceptions of economic threat, and result in a declining level of trust in democratic governance as an instrument of collective problem-solving. We also find that the two channels of influence differ in another important respect: whereas declines in trust that stem from adverse macroeconomic changes are reversing fairly quickly as labor market conditions improve, declines in political trust that originate from personal experiences of unemployment seem to result in much more persistent political alienation.

Keywords

Political trust, parliament, parties, democracy, recessions, unemployment, business cycle, cross-country comparison, trend analysis, multilevel modeling

Acknowledgements

The GSS and ESS data used in this research have kindly been made available by the National Opinion Research Center at the University of Chicago and the European Social Survey European Research Infrastructure Consortium at the City University of London. Of course, neither institution bears any responsibility for our analysis of the data, nor for any substantive inferences of this paper. Earlier versions of this research have been presented at the 2017 Annual Meeting of the Leopoldina (German National Academy of Sciences) section for Economics and Empirical Social Sciences, at the 2017 Annual Conference of the European Consortium for Sociological Research, and at the InFER Research seminar at the Goethe University's School of Social Sciences. We are grateful to our colleagues for many helpful comments that we received on these occasions. Eric Uslaner and our colleagues at the Chair for Social Stratification and Public Policy, Jan Brülle, Rona Geffen,

Anne Kronberg, Timo Lepper, Kristina Lindemann, and Fabian Ochsenfeld, likewise offered insightful suggestions and advice. We also gratefully acknowledge funding from the European Research Council under the European Union's Seventh Framework Programme (FP7/2007-2013, ERC grant agreement n° ERC-2013-CoG-615246-CORRODE) for this research.

## 1 Introduction

Trust is an eminently important form of social capital. At all levels of social organization, from the micro level of families to the meso level of organizations and the macro level of public institutions, trust facilitates collective action because it provides additional resources to or removes constraints on the trusted party that otherwise inhibit if not impede decision-making (Coleman 1990): placing trust is equivalent to conveying certain rights to action on other actors in a social system, which then minimizes the costs of collective decision-making and helps sustain specialization and a far-reaching division of labor. At the same time, by placing trust, individuals inevitably increase their own vulnerability to the actions of others, and so the question of when and why they choose to do so is one of the perennially important questions of social theory.

These considerations assume pivotal relevance for democratic governance, as trust in political actors and institutions is deeply intertwined with the principle of representative democracy (e.g., Berelson 1952), and hence with the invariable cornerstone of each and every workable form of democracy in large-scale societies. Political representation necessarily fails without trust, as citizens otherwise would not conceive of political actors as stewards of either their own or at least society's overall best interests. As such, and as political scientists have long recognized (e.g. the reviews in van Erkel and van der Meer 2016, van der Meer and Hakhverdian 2017, van der Meer 2018), political trust encapsulates a fundamental component of evaluation, namely whether and to which extent the political division of labor between the citizenry and the political elites is perceived as reliably producing the good governance desired by the citizen principals from their political agents. Framing the problem of political trust in this way, however, begs the obvious question as to what exactly is forming the basis of citizens' positive or negative evaluations of good democratic governance.

Political scientists have given a wide range of answers to this question, and have also sought to ascertain the relative weight of economic, psychological and ideological factors (e.g., McAllister 1999, Miller and Listhaug 1999, Newton and Norris 2000, Dalton 2004, Newton 2007, van Erkel and van der Meer 2016, van der Meer and Hakhverdian 2017, Foster and Frieden 2017, van der Meer 2018). In the present study, we do not wish to add to any such academic beauty contest but instead aim to specifically contribute to the study of potential economic causes of political trust. We do so against the particular historical backdrop of the Financial Crisis of 2007-8 that started out as a subprime mortgage crisis surrounding the bankruptcy of Lehman Brothers in the United States, but subsequently turned into a major economic recession with repercussions on both the international financial system and labor markets in the United States, in Europe and other Western economies. In some countries, including the U.S. but also European countries like Ireland, Spain, Portugal and Greece, unemployment rates surged sharply and often to historical highs not seen in a generation or more (e.g., Elsby, Hobijn, and Şahin 2010, OECD 2013). Unsurprisingly, scientists and political commentators alike have come to dub the post-Financial Crisis recession the "Great Recession" (e.g., Krugman 2009, Grusky, Western, and Wimer 2011).

While this specific historical context adds an undeniable element of current interest, we privilege an analytical rather than a purely descriptive perspective on the issue in the present paper. We therefore embed our study in a general framework for thinking about the causal relationship between macroeconomic conditions and political trust, and we conceive of the Great Recession as an unfortunate historical opportunity to test and evaluate some predictions from our analytical model against empirical observation, and to learn more about whether, when and why an economic crisis might indeed systematically undermine the social foundations of democratic governance. Framing our goals in this way naturally leads us to embrace an "effects-of-causes" approach (cf. Holland 1986, King, Keohane, and Verba 1994,

Goldthorpe 2001, Imai, King, and Stuart 2008, Morgan and Winship 2014) in our present analysis: theoretically as well as empirically, we focus on credible identification of the causal effect of macroeconomic conditions on political trust, and we also seek to explore and provide empirical evidence on some of the underlying mechanisms that may generate any such relationship.

Theoretically, we emphasize a macroeconomic as well as a microeconomic aspect of that question, and we combine survey data from 2002-2014 waves of the General Social Survey and the European Social Survey to test some predictions from our model in a representative sample of working-age respondents in the United States and 20 European countries. Using hybrid multilevel models for time-series cross-sectional data, we find that both adverse macroeconomic conditions and personal experiences of unemployment generate negative effects on political trust. Furthermore, we also find that these two economic channels of trust formation operate independently of each other, rest on different mechanisms of evaluation, and generate different political consequences. Empirically, declines in trust that relate to personal experiences of unemployment are almost entirely driven by economic deprivation and personal dissatisfaction, and result in a broad pattern of political alienation. Declines in trust that respond to deteriorating macroeconomic conditions, however, are reflecting perceptions of political failure rather than perceptions of individual economic risk, and result in a declining level of trust in democratic governance as an instrument of collective problem-solving. We also find that the two channels of influence differ in another important respect: whereas declines in trust that stem from adverse macroeconomic changes are reversing fairly quickly as labor market conditions improve, declines in political trust that originate from personal experiences of unemployment seem to result in much more persistent political alienation. We present and discuss these empirical results in greater detail below, but

first provide readers with a fuller account of our theoretical framework and a thorough description of our statistical modeling and research design.

## 2 Political trust and macroeconomic shocks

Aiming to link political trust and the macroeconomic shock of the Great Recession, our study naturally aligns with the rich tradition of economic voting research in political science that has long sought to trace the connections between economic performance, political attitudes, and political behavior (e.g., Inglehart 1990, Kaase and Newton 1995, Norris 1999, Newton and Norris 2000, Dalton 2004, 2014). And while it is impossible to summarize the wealth of findings in any detail here, it seems fair to describe as a consensus view that economic voting is eminently relevant for actual voting behavior as well as government approval (e.g., Lewis-Beck and Stegmaier 2000, Lewis-Beck, Nadeau, and Elias 2008), but far less so for more fundamental political orientations like trust in institutions or support for democratic decision-making (Dalton 2004, 2014, Newton 2007). From a political culture perspective, more diffuse attitudes like political trust can be thought to rest on a reservoir of principled and generalized support for democracy (e.g., Almond and Verba 1963, Easton 1975, Dalton 2004), which renders them less susceptible to perturbation from short-term, cyclical economic forces. Empirically, one major piece of evidence in support of this view is that fact that economic factors – whether macroeconomic performance or personal economic circumstances, and whether manifest economic conditions or citizens' subjective perceptions thereof – do not provide much of an explanation for the secular decline in political trust in the United States and many other Western democracies after the 1960s (Norris 1999, Dalton 2004). The evidence has traditionally been somewhat more supportive of some role of macroeconomic performance for political support in Western Europe (e.g., Clarke, Dutt, and Kornberg 1993, Cusack 1999, Miller and Listhaug 1999, Taylor 2000, Kotzian 2011, but also cf. McAllister 1999, van der Meer and Dekker 2011, van der Meer and Hakhverdian 2017 for contrary

evidence and arguments), but even so the debate has remained open as to whether objective macroeconomic realities or citizens' subjective perceptions are the relevant factor (e.g., Anderson and Singer 2008, Kotzian 2011), and also if, in case of citizens' perceptions, it is their egocentric evaluation of personal economic fortunes or rather the sociotropic evaluation of economic performance that matters (cf. fundamentally Kinder and Kiewiet 1981).

While the focus in the economic voting literature has been on these various facets of macroeconomic performance, the older class voting literature in political sociology suggests that manifest economic location and circumstances would also hold political consequences (cf. Lipset 1981 [1960], Lipset and Rokkan 1967, Hout, Brooks, and Manza 1995, Manza, Hout, and Brooks 1995, Brooks, Nieuwbeerta, and Manza 2006). And while this equally rich tradition has long demonstrated that citizens' economic location is an important predictor not just of voting and political opinions (e.g., Manza, Hout, and Brooks 1995, Brooks and Manza 1997, Brooks and Brady 1999, Manza and Brooks 1999, Brooks 2006), it surely would share the suspicion of the economic voting literature that structural aspects of economic location, as those expressed in measures of social class or level of education for example, would take precedence over more transient experiences like the economic strain encountered during a spell of unemployment. In the sociological literature on social exclusion it has long been shown that personal experiences of unemployment do not just affect subjective quality of life, optimism or psychological dispositions like self-efficacy and locus of control, but that unemployment also tends to entail a retraction from community life and community activities on the part of the unemployed (Gallie and Paugam 2000, 2004, Paugam and Russell 2000, cf. also already Jahoda, Lazarsfeld, and Zeisel 1971 [1933]). As most studies in that tradition have primarily examined the social spheres of interaction, it is far less clear to date whether any respective (self-)stigmatization of the unemployed also extends to the political sphere. For the time being it probably seems fair to conclude that, at least as far as U.S. research is

concerned, the classical findings of Schlozman and Verba (1979), who failed to documented any association between unemployment and fundamental political orientations, still provide the empirical benchmark.

In part, the current lack of solid evidence on the relationship between economic strain and fundamental support for democracy may be due to the usual difficulties of empirical research, whether it is sampling details, specification issues, valid causal inference, effect heterogeneity, or proper operationalization. But then Russell Dalton (2004) may have offered an even more important reason in his Democratic Challenges, Democratic Choices for the received consensus that economic conditions may affect more immediate forms of political behavior or attitudes, like voting or government approval rates, but do not appear as relevant when it comes to more fundamental and more diffuse sources of support for democratic governance. Specifically,

> "*[i]n most OECD nations … the link between economic performance and political support appears tenuous. We do not believe that this is because a linkage is non-existent. Rather, the range of experiences over this period [i.e. 1970-2000] is not sufficient to have a clear and direct role in decreasing political support. For performance dissatisfaction to become generalized to distrust in democratic institutions and … processes, it would require major and sustained drops in … performance.*" (Dalton 2004, 127, emphasis in the original)

Now in light of precisely such a major and sustained drop in macroeconomic performance, the past decade may well constitute a unique historical opportunity to reassess the role of economic factors in the formation and decline of political trust. And indeed, favorable empirical evidence has been forthcoming in those recent studies that have employed post-crash observation windows and trend designs to examine the recession impacts. Drawing on European Social Survey (ESS) data for 2004 and 2010, Polavieja (2013) finds a clear negative association between the severity of the recession as measured by the drop in GDP and an index of political trust as well as with satisfaction with democracy among working-

age respondents in the 19 countries of his sample. Fagerland Kroknes et al. (2015) also use 2004-2010 ESS data and show a positive association between the within-country change in GDP growth rates and political trust. Van Erkel and van der Meer (2016) provide an even more extensive analysis of 1999-2011 Eurobarometer data and conclude that trends in both GDP growth and unemployment rates have robust relationships with political trust; like Polavieja (2013), van Erkel and van der Meer (2016) find that personal experiences of unemployment reduce political trust, but emphasize in addition that the relationships between macroeconomic conditions and trust is also more pronounced among lower educated citizens (also cf. Dotti Sani and Magistro 2016, Foster and Frieden 2017). In contrast, Armingeon and Guthmann (2014) report more mixed results on the various macroeconomic indicators in their analysis of 2007-2011 Eurobarometer data, but at least also find respondents' subjective perception of macroeconomic conditions to be a robust predictor of political trust and support for democracy. Examining the response of the American public to the Great Recession, Brooks and Manza (2013) conclude, however, that partisanship rather than macroeconomic considerations appear as the major driver of political attitudes in the U.S. (also cf. Kenworthy and Owens 2011 for related results)

*A stylized model for the impact of macroeconomic shocks on political trust*

While at least the European evidence certainly is suggestive, few of the recent trend studies except Polavieja (2013) have actually sought to focus on the role of macroeconomic shocks per se, let alone have embarked on attempts to provide a more in-depth examination of the actual generative mechanisms behind the relationship between macroeconomic conditions and political trust. Focusing exclusively on the role of macroeconomic shocks, however, one can easily distil the received literature into a stylized model and a set of derived predictions to be tested in our subsequent empirical analysis. To begin with, it may seem almost trivial to reaffirm the expectation of a negative impact of a recession on political trust as a first

baseline hypothesis (H1) of our analysis. When citizens place trust based on their subjective evaluations of good governance (i.e. when trust is, at least in part, strategic in the terminology of Uslaner 2002), current economic conditions certainly are one aspect of any assessment of the current state of society they live in. There is no need to assume that citizens would evaluate society and governance in purely economic terms, or even that economic considerations were being privileged over other dimensions of social life. As long as economic conditions receive some reasonably important weight in citizens' evaluations, a prediction of a negative trust response to macroeconomic shocks results. Psychologically speaking, it is even possible to argue that negative shocks – like a recession – might assume particular salience in this respect as human beings are known to exhibit significant loss aversion, i.e. experience higher disutility in response to negative events than positive utility from positive events that objectively involve comparable magnitudes of change (Kahneman and Tversky 1979). If that psychological insight translates to political evaluations as well, a sudden and strongly negative macroeconomic shock like the Great Recession might plausibly generate more pronounced (negative) repercussions on political trust than whatever (positive) connotations the reasonably steady, but otherwise unspectacular "normal" economic growth might have had that many if not most Western economies had experienced before (cf. Hetherington and Rudolph 2008 for related evidence, but cast in historical context).

More interesting than the baseline hypothesis per se (and ignoring the question of the empirical magnitude of the implied effect for a moment, which is of obvious substantive interest in itself) is to consider potential mechanisms that might underlie and create the observable relationship between economic shocks and political trust. Fundamentally, we assume that citizens primarily respond to adverse developments in the labor market rather than to the incidence of recessions as such. If we should be right in this assumption, there is likely to be a micro as well as a macroeconomic aspect to this response. In microeconomic

terms, citizens are likely to base their evaluations on their personal economic circumstances. Most notably, citizens are likely to respond to direct experiences of unemployment, whether personal, in the immediate family, or also in their personal networks of friends, relatives and colleagues, and one obvious consequence of a recession surely is to increase the share of the citizenry who either is currently experiencing or who has recently experienced adverse economic circumstances first hand.[1] Over and on top of, if not possibly interacting with, this microeconomic channel is a macroeconomic one, however: irrespective of their own personal exposure to hardship, citizens are likely to factor aggregate economic conditions into their evaluation of whether and to which extent existing institutions and current political actors may be trusted to deliver desirable governance over collective matters. And there might be both egocentric, straightforward economic considerations as well as broader sociotropic and non-economic motivations at play in either of the two channels of influence, so that it is of interest to examine more specifically which type of motivation is predominantly driving the empirical relationship between recessions and political trust. Figure 1 is intended to provide a graphical summary of our argument, but it seems worthwhile to spell out its different parts more explicitly here.

FIGURE 1 ABOUT HERE

Our fundamental decision to privilege labor market adversity as the mechanism to link recessions and political trust is based on the fact that the labor market is the main area of economic interaction for the broad majority of citizens in Western democracies. People for the most part earn their livelihood through the labor market, each individual citizen knows

[1] Empirically, our survey data will not permit us to evaluate anything but the effect of personal experiences of unemployment in the present analysis, but we deliberately cast the argument in more general terms to allow and indeed hoping for subsequent empirical tests also of those wider implications of our argument that we cannot adjudicate ourselves within the confines of the present work.

that this is true not just for herself but also for her fellow citizens, and in consequence people are likely to take changes in labor market conditions as their primary cues in evaluating the overall state of the economy. A secondary aspect could be that changes in labor markets – rising unemployment rates, for example – might not just be more salient to citizens' minds, but also represent more concrete events and phenomena and hence lend themselves to easier vindication through everyday interactions than more abstract macroeconomic concepts like the gross domestic product per capita, growth or inflation. Either way, the assumption that the relationship between recessions and trust is primarily, if not exclusively operating via their consequences on labor markets is a second empirically testable hypothesis (H2) in our framework.

If recessions indeed operate chiefly through their impact on the labor market, the next question becomes whether it is primarily the general macroeconomic context or rather their personal labor market status that citizens base their political evaluations on. In the most extreme case, citizens would only respond to their own adverse experiences in the labor market (or, in a wider sense of the argument, also to adverse experiences in their immediate family and personal social network) and would thus judge political institutions solely on their responsivity to citizens' personal economic concerns. And if that was the sole mechanism to link labor market adversity to political trust, then the aggregate statistical relationship would be generated as a purely compositional effect from a rising share of unemployed citizens in the population during a recession. Put less drastically, it is indeed straightforward to assume that citizens' personal economic circumstances are one element in their judgment of good governance, and that personal experiences of unemployment are therefore likely to reduce citizens' political trust (H3). By implication, recessions then do generate declining levels of trust in the population by the increasing proportion of unemployed citizens they bring, but the magnitude of this compositional effect is first and foremost an empirical matter.

Even if citizens were completely egocentric in their political evaluations, however, it is in fact highly unlikely that accounting for citizens' individual employment status would fully account for the relationship between aggregate labor market conditions and political trust. Any political effect of citizens' (current and past) employment status trajectory reflects an ex-post response to realized labor market risk, i.e. to the actual degree of labor market adversity experienced in personal lives. Next to this retrospective component, any self-interested evaluation of collective governance would surely have prospective elements as well, where citizens may take a deterioration of macroeconomic conditions as an indicator of economic threat to which, ceteris paribus, purely self-interested citizens are likely to respond in the negative, too. Even conditional on personal employment history, aggregate labor market conditions in other words are still likely to influence political trust because they signal future or anticipated risks to citizens' personal economic security (H4), i.e. any such effect would represent a political response to current ex ante-levels of economic risk as opposed to an ex-post, retrospective evaluation of past political performance as far as one's own labor market and economic fortunes have been concerned.

That said, a genuine effect of macroeconomic conditions on political trust, i.e. net of any political impact of personal economic trajectories, might also rest on more sociotropic motives, however. Specifically, a prediction of a negative relationship between adverse labor market conditions and political trust would also result from citizens taking evidence on rising unemployment rates – as the prime example, perhaps – as an indicator of political failure rather than of pure economic threat (H5). Note, however, that this hypothesis does not imply any statement at all on either the willingness or factual power of political actors to affect the economy, nor on the factual validity of Keynesianism as a macroeconomic doctrine, nor even on either the rationality or the factual validity of citizens' personal theories about the role of

politics and politicians for economic outcomes.[2] The only aspect that matters for our prediction is the assumption that adverse labor market conditions might be relevant for political trust for their own sake, i.e. as an indication of economic trouble for society at large, net of citizens' individual economic positions and interests. If so, the particular trust-generating mechanism is sociotropic rather than self-interested because citizens then place political trust based on whether or not democratic governance is seen as being principally successful in responding to economic risk in society as a whole.

Whether guided by sociotropic or self-interested motives, all of the above implicitly also assumes that political trust may decline during a recession because citizens respond to macroeconomic (mis)management. That is, the tacit assumption has been that trust declines as citizens figure in a recession that the political actors who are held responsible for the state of the economy prove themselves, or are at least perceived as being, incapable of ensuring economic stability and security. If this reasoning is correct, then the prediction that political trust declines in a recession requires differentiation: if citizens' trust response is directed at (unsatisfactory) political management of the economy, it is precisely the institutions of democratic governance that should suffer. A recession therefore is likely to primarily affect trust in the government as well as trust in parliament, the two key institutions of democratic decision-making, whereas trust in the purely executive branches of the police or the military, or also trust in the workings of the legal system is unlikely to suffer (H6). As we are in a position to work with multidimensional measures of trust in our subsequent analysis, this proposition also becomes an empirically testable aspect of our framework.

As we have carefully distinguished between a macroeconomic and a microeconomic channel of influence on trust, the obvious question is whether this focus on (inadequate)

[2] In contrast, van Elsas (2015) seeks to assess the rationality of citizens' placement of political trust. Also note that we do not aim to disentangle whether citizens' subjective perceptions of economic conditions match macroeconomic realities, or also to which extent any potential mismatch might still accrue political relevance (but cf. Kotzian 2011, van der Meer and Dekker 2011, Chzhen et al. 2014 for evidence on these questions).

political decision-making as the ultimate source of trust in fact applies to both economic channels equally. The respective rationale could well be argued to better characterize citizens' response to (deteriorating) macroeconomic conditions than to their own personal experiences of unemployment. The latter certainly create economic adversity and deprivation, whether through an actual decline in household income, through a heightened sense of subjective economic insecurity, or through relative deprivation in comparison to other, less-affected households. But, as we have briefly reviewed above, this economic deprivation also tends to be accompanied by a broader sense of dissatisfaction, disaffection and social exclusion on the part of citizens personally affected by job loss and unemployment. If so, it may be the case that in response to personal economic adversity, and driven by both economic deprivation and disaffection (H7), citizens' political disaffections run deeper, are less differentiated in their causal attributions, and thus result in a broader patterns of political distrust and alienation, i.e. involve political institutions other than government and parliament (H8).

## 3 Research design, data and statistical modeling

In the following, we seek to evaluate this stylized model for the evolution of political trust during an economic downturn empirically, drawing on survey data from the United States and 20 European democracies for the years 2002-2014. This observation window is uniquely suited to the endeavor, given that it spans the years prior to the Financial Crisis of 2007/8, the years of the immediate recession as well as several years in its aftermath. Methodologically speaking, the Financial Crisis and the ensuing Great Recession, the severest in a generation in many Western economies, have created a unique if unfortunate natural experiment on the impact of macroeconomic shocks on political trust. In the present paper, we seek to capitalize on this historical event to implement a multilevel interrupted time-series design to estimate the empirical direction and magnitude of the recession impact on political trust, and also to

obtain further insights into the generative processes and mechanisms that are underlying it. In line with this consideration, we will conduct an "effects-of-causes" analysis that aims to sequentially examine the funnel of causality as encoded in Figure 1 above.

*Data*

In this analysis, we draw on harmonized survey data that we constructed from the 2002-2014 waves of the General Social Survey (GSS, Smith et al. 2015) and those 20 member countries of the European Social Survey (ESS, Fitzgerald et al. 2016) that supplied adequate data for our purposes.[3] The GSS and the ESS are omnibus surveys fielded biannually in order to provide repeated cross-sectional data for nationally representative samples on a wide range of topics, ranging from basic socio-demographic data to a broad set of social and political attitudes. Both the GSS and the ESS include an item battery on trust in selected political institutions as part of their core questionnaire, which is key to our present analysis. The ESS has the somewhat more encompassing battery, asking its respondents for their trust in five political institutions, namely in the national parliament, in politicians, in parties, in the legal system, and in the police, whereas the GSS asks for respondents' trust in Congress and in the Supreme Court (and a further range of public and economic institutions, which we do not consider in the present context, however). To harmonize the data in a joint cross-national database, we recoded the 11-point Likert scale data available from the ESS into the GSS's 3-point format of "hardly any trust at all", "only some trust" and "a great deal of trust", using the values of 4 and 7 as the cutoff points on the ESS's 0-10 scale.[4]

[3] The 20 European countries included in this study are Belgium, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, the Netherlands, Norway, Poland, Portugal, Slovenia, Slovakia, Spain, Sweden, Switzerland, and the United Kingdom.

[4] As we utilize country fixed-effects in our subsequent regression modeling, the specific choice of cutoff points is, within broad limits, arbitrary and inconsequential. Among many other things, the fixed-effects modeling also ensures that between-country variation in response behavior and in the precise anchoring of the verbal stimuli provided by the question wording is not confounding our substantive inferences, as the latter will rest on either within-country changes or within-country group differences exclusively. Naturally, the statement about the inconsequential nature of the choice of cutoff points is to be understood with the qualification that the cutoff points of course should be chosen in a way to approximately reflect the stimuli thresholds presented in the three-

In our main analysis, we estimate the recession impact on trust in parliament and on trust in the legal system using the harmonized GSS-ESS dataset, but we also systematically present additional results on trust in all five political institutions in European countries in order to make optimal use of the broader item battery available in the ESS, and to conduct a more systematic test of our argument that the political impact of a recession is likely to differ between the core institutions of democratic decision-making and governance on the one hand, and more clearly executive public institutions on the other.[5] For both pragmatic and more principled reasons, we do not include any measure of trust in the government in our analysis, however. Pragmatically, harmonizing GSS and ESS data on a trust in the government measure is not easy because the two surveys contain quite different batteries for the purpose, the questions also change over time and are, especially in the GSS, not part of the core questionnaire administered in every survey wave.[6] On a more substantive consideration, we deliberately decided to omit measures of trust in the government as this permits us to focus the analysis on those core institutions of governance where partisanship should play a much less prominent role than for trust in the government. Our theoretical aim in other words is to evaluate the impact of macroeconomic shocks on the viability of the fundamental democratic consensus of Western societies, rather than on current affairs and the survival of whichever government happens to preside over the incidence of a major recession. To also focus on the part of the citizenry most strongly involved with, and therefore likely to be concerned with the present state of the economy, we restrict our analysis to working-age adult respondents, i.e. to survey respondents aged between 16-64 years at the time of the interview. With that

category GSS question in order to register approximately similar and meaningful within-country changes on a continuous measure. Within the guidance of this rule of thumb in data harmonization, our own various robustness checks on the matter have not produced any material differences in empirical results.

[5] To maximize their informational content, these additional analyses will also make use of the full 11-point Likert scale data available in the ESS rather than the 3-category measure of the harmonized GSS-ESS data.

[6] Put differently, we have refrained from using the GSS item on "trust in the executive branch of the federal government" as we considered it rather abstract in its wording, and of doubtful face validity for the purpose of cross-country data harmonization. Also, we have refrained from including the item for "trust in the military", the closest GSS analogue to the ESS item on trust in the police, in our analysis.

restriction, we retain samples of about N=160,000 respondents (N=130,000 for trust in parties) with valid data on trust and all covariates of our analysis from 21 countries and seven survey waves conducted between 2002 and 2014. To address the role of macroeconomic conditions for political trust, we merge annual data on the output gap in the national gross domestic product (GDP) as our measure of macroeconomic demand shortages, and on the national standardized unemployment rate among prime-age workers aged between 25 and 54 years as our aggregate measure of adversity in the labor market, both obtained from OECD sources, to the GSS-ESS survey data.[7]

*Model specifications*

We use this database to specify a sequence of regression models that aim to identify and estimate the causal effect of recessions on citizens' trust in democratic governance and to elucidate some of its underlying mechanisms in the United States and Europe. Our analysis is deeply embedded in the rich methodological literature on causal inference that has spanned political science and many of the other social sciences in recent years (e.g., King, Keohane, and Verba 1994, Sobel 1995, Heckman 2005, Imai, King, and Stuart 2008, Imbens and Wooldridge 2009, Pearl 2009, Angrist and Pischke 2010, Gangl 2010, Morgan and Winship 2014), and that also includes conceptual advances to bring the practice of mediation analysis fully in line with a counterfactual paradigm of causal inference (cf. Imai et al. 2011, VanderWeele 2015). Fundamentally, our own Figure 1 has encoded a stylized theoretical model that contains several claims to causality; moreover, these causal statements have been presented in a characteristically sequential order to yield a causal chain wherein several causally intermediate mechanisms are examined as potential mediators, i.e. explanations, of the impact of an original cause or intervention.

[7] In practice, we invert the output gap measure from the OECD raw data so that positive values reflect the extent of demand shortages in the economy (in percent of potential GDP).

In our specific case, we represent our causal path model (or directed acyclic graph) by the generic regression specification

$$
\begin{aligned}
(1) \qquad Y_{ict} = {} & \beta_0 + \beta_1 \, OUTPUT\ GAP_{ct} && \text{baseline} \\
& + \beta_2 \, UNEMPLOYMENT\ RATE_{ct} && \text{agg. labor market} \\
& + \boldsymbol{\beta}_{\mathbf{3ct}} \, EMPLOYMENT\ STATUS_{ict} && \text{individual status} \\
& + \boldsymbol{\delta}_{\mathbf{ct}} \begin{pmatrix} HOUSEHOLD\ INCOME \\ SUBJECTIVE\ ECONOMIC\ DIFFICULTIES \\ SUBJECTIVE\ WELL-BEING \end{pmatrix}_{ict} && \text{mediating factors} \\
& + \boldsymbol{\gamma}_{\mathbf{ct}} \mathbf{X}_{\mathbf{ict}} + \mathbf{r}_{\mathbf{c}} t + \mathbf{u}_{\mathbf{c}} + v_{ct} + \varepsilon_{ict} && \text{controls}
\end{aligned}
$$

that relates respondents' political trust $Y_{ict}$ in country $c$ at time (i.e. survey wave) $t$ to the macroeconomic business cycle (measured as the output gap in GDP), aggregate labor market conditions (measured by the unemployment rate), respondents' individual employment status, their household income, their subjective assessment of economic difficulties and well-being as well as a series of further control variables. Importantly, this sequential listing of potential economic causes of trust deliberately reflects the presumed chain of causal hypotheses nested within each other, where the macroeconomic business cycle represents the original cause of interest (the "treatment" in counterfactual terminology), which is then in turn mediated by the (intermediate) causal effects of aggregate labor market conditions, personal employment history, personal economic circumstances and subjective well-being. To respect this causal chain, we will present our empirical evidence in form of a series of stepwise regression specifications that sequentially add one economic factor to the model at a time, thereby aiming to estimate the direction and magnitude of the average causal effect of the last factor entered into the model, and then to examine the degree of mediation achieved by adding further intermediate causes along the causal chain to the specification.[8]

[8] Equivalently, the average causal ("treatment") effect of a treatment on outcomes is always the sum of the direct and all indirect paths between treatment and outcomes in a directed acyclic graph (cf. Sobel 1982, VanderWeele 2015). The inclusion of mediating factors on the path between treatment and outcomes provides a quantitative and substantive decomposition into mediated (i.e. explained) and direct (i.e. residual) components of any causal effect of interest, but does not alter any inference about the causal role of the primary treatment. In

As is usual in non-experimental research, the burden of proper identification of these causal effects primarily rests on the control variables available to eliminate confounding biases in the treatment effect estimates of interest. We actually emphasize the qualifier "primarily" in the present context, however, because of two specific methodological features that significantly aid causal identification in our particular case. First and foremost, it is eminently reasonable to conceive of a recession as a pure macroeconomic shock or, methodologically speaking, a natural experiment. That is, while it is surely the case that the incidence of a recession is potentially non-random, hitting specific countries at particular points in time, the issue of endogeneity or treatment choice is entirely absent in our analysis. At the level of the individual citizen, there is no conceivable instrumental relationship between macroeconomic shocks and political trust, i.e. citizens would neither be able nor be willing to affect a recession as a means to change the trust they personally place in political actors and institutions. In consequence, the methodological task of causal identification is considerably simplified to one of finding valid adjustment for selective recession incidence across time and space.[9]

At the macro level, such adjustment can actually be achieved in a very parsimonious way thanks to the availability of the comparative GSS-ESS database of time-series (repeated) cross-sectional survey data and thanks to our focus on isolating the effects of a singular cause – a macroeconomic shock – as opposed to the attempt to provide simultaneous credible estimates of the effects of multiple causes on outcomes as in more traditional "causes-of-effects"-type approaches. As long as we are not interested in any other potential (macro-

lieu of computing mediation backwards from the full specification (cf. proposals in VanderWeele 2015, for example), we provide readers with estimates from sequential regression models that permit a straightforward assessment of mediation from the changes in coefficient estimates across alternative specifications. As our aim with the present analysis does not lie in testing any strict quantitative hypotheses about the relative contribution of some particular path of mediation, we hold this simplified approach to be defensible in practice.

[9] Another, more formal way of expressing the same point is that the average treatment effect and the average treatment effect on the treated conceptually coincide in the present analysis (cf. Morgan and Winship 2014).

level) causes of trust but only seek to eliminate bias from potential confounding, we can implement a straightforward fixed-effects approach at the aggregate level. More specifically, equation (1) incorporates a vector $\mathbf{u_c}$ of country dummies and a vector $\mathbf{r_c}t$ of country-specific (linear) time trends in order to parsimoniously and effectively summarize the joint impact of any – i.e. observed or unobserved, systematic or idiosyncratic – factors or characteristics that produce a country-specific level of trust (in any particular of the five political institutions that we have data on) or a country-specific trend in trust over, roughly, the first decade and a half of the 21st century. In practice, we thus identify any systematic causal impact of recessions on political trust from the observed deviation from any otherwise potentially idiosyncratic level and trend in political trust in the 21 countries in our analysis sample that occurs in temporal conjunction with the incidence of macroeconomic shocks.[10]

In addition, the multilevel (hierarchical) nature of our database that nests microdata on individual respondents within survey waves and countries permit us to also incorporate further controls on the micro level of citizens in order to safeguard our causal inferences. In the spirit of the preceding discussion, we would ideally wish to implement a corresponding fixed-effects specification also at the level of individual survey respondents. Unfortunately, this is not feasible in the present analysis as the required longitudinal (panel) data at the individual level does not exist.[11] We therefore have to resort to the traditional second-best

[10] Attentive readers will realize that this amounts to a quite conservative identification assumption insofar as we are thereby ruling out that macroeconomic shocks contribute anything to the longer-term evolution of political trust in any particular country in our sample – or, put differently, even if they did, we in fact (mis)attribute any such long-term effect to some otherwise unspecified and potentially idiosyncratic country-specific trend that we treat as a potential confounder but do not examine any further in the present analysis. Empirically, it actually turns out that our estimates do, by and large, not materially depend on the acceptance of this strong assumption, but are also robust in alternative specifications that omit the country-specific trend vector $\mathbf{r_c}t$. There is but one single and interesting exception to this statement which we note in the discussion of our substantive results below; but other than this exception, the broader robustness of our estimates indirectly also confirms our assumption that the incidence of macroeconomic shocks may usefully be treated as a natural experiment that is at best weakly correlated with the political economy of trust in any of the Western democracies in our sample.

[11] A rare exception is the study of Bauer (2018) that is able to use the Swiss Household Panel survey and the Dutch Longitudinal Internet Studies for the Social Sciences. Comparing the results from standard and panel data (FE) regression models, Bauer's (2018) empirical analysis suggests the potential presence of considerable omitted-variable bias in estimates obtained from cross-sectional microdata, at least in the two countries for which longitudinal data on trust is available, yet due to the relatively short observation window of both panels

approach of controlling for a vector of observable covariates $\mathbf{X_{ict}}$ that ideally comprises the relevant predictors of both trust and, especially, unemployment incidence in order to allow for valid identification of the causal (and possible mediator) effects located on the micro level. Within the constraints afforded by the GSS-ESS data, we are able to incorporate respondents' gender, age, level of education, and social class as components of $\mathbf{X_{ict}}$. To respect the multilevel structure of our data, we furthermore permit the effects of $\mathbf{X_{ict}}$ on trust (i.e. the coefficient vector $\boldsymbol{\gamma_{ct}}$) to vary across country-year contexts (cf. Heisig, Schaeffer, and Giesecke 2017), and we likewise estimate normally distributed random slope parameters for all other respondent-level covariates in the model (i.e. for employment status and all mediators). We also allow for a normally distributed random intercept $v_{ct}$ to capture any further idiosyncratic contextual variation in trust, net of country fixed-effects, country-specific trends, and any effects of observed covariates, and we naturally also utilize standard error estimates that properly adjust for the hierarchical (clustered) structure of our data.[12]

*Definition of variables and further modeling choices*

Within this broad and generic regression modeling framework, there are a number of additional specification details that are worthy of at least a brief discussion. To begin with, we estimate equation (1) as a hierarchical linear regression model (HLM) throughout this paper, thereby treating the 11-point Likert-scale trust data as (approximately) continuous in the analyses drawing on ESS data only and estimating a hierarchical linear probability model (HLPM) in case of the 3-category trust measures available from the harmonized GSS-ESS data.[13] In the latter case, we use a collapsed binary measure as our dependent variable and

and the relatively small number of unemployed respondents, the analysis also suffers from being limited to identify the effects of interest from predominantly short spells of unemployment in practice.

[12] Since our specification already incorporates country fixed-effects as an implicit third (country) level, we utilize a two-level random slope specification that nests respondents within 140 country-survey wave combinations. In the technical terminology of the multilevel modeling literature, we could thus call our regression model a hybrid country fixed-effects, two-level random slope hierarchical linear model.

[13] In so doing, we merely wish to pragmatically note the convenience of the LPM model in terms of the interpretation of its coefficients as average marginal effects on the probability scale, but leave any further

investigate the probability that respondents express having at least "some trust" in a particular institution (i.e. we contrast "some trust" and "a great deal of trust" with "hardly any trust at all"), but we also like to note that our substantive inferences are qualitatively unchanged if we were to focus on the probability of respondents placing "a great deal of trust" exclusively.

On the side of the independent variables, the most important feature of our analysis is that we use the OECD's output gap estimate, i.e. the economic shortfall due to inadequate demand expressed as a percentage of potential GDP at full capacity, as our measure of macroeconomic adversity. Compared to a binary (e.g. pre-/post-2008) indicator for the Great Recession, this quantitative measure enables us to capture and incorporate the empirical fact that the length and severity of the Great Recession differed quite substantially among the 21 Western countries in our sample, and then also to express the trust response as one to the intensity and not merely the incidence of a recession experience in any particular country. Also, compared to using the alternative technical definition of recessions as a period of negative economic growth, the output gap measure has the advantage of expressing macroeconomic adversity as the shortfall in welfare relative to "normal" conditions, and this is likely to be the theoretically preferable yardstick of adversity. Even with a sharp and sudden crisis like that many Western countries experienced in the wake of the Great Recession, growth will at some point pick up again but it will then still be some time before the damage inflicted to economic welfare has been fully recaptured and GDP restored to its pre-crisis (or, in case of the actual OECD indicator, its potential) level. In using the output gap indicator, we thus operationally posit that the political economy of trust is primarily driven by welfare levels rather than its change, i.e. annual growth rates. This presumption is

discussion to the specialist debate on the relative usefulness of the LPM vs. logit and probit models in the analysis of categorical dependent variables (e.g. Angrist and Pischke 2009, Mood 2010)

in fact also borne out in our empirical analysis, which hence provides another argument in favor of relying on the output gap measure.[14]

As regards the remaining independent variables of our models, our operational choices are more conventional. We pick the standardized unemployment rate among the prime-age core workforce as our indicator of aggregate labor market conditions, which is likely to be the prime indicator of serious labor market adversity in the first place, but which also is likely to exhibit a high degree of cross-national validity in a sample of industrialized countries with widely different practices of labor market regulation and the resulting differences in employment and unemployment patterns among more peripheral workers and age groups in the labor market (e.g., Esping-Andersen 2000). On the respondent level, we include gender, age and its square, a 3-category harmonized measure distinguishing low, intermediate and tertiary levels of education, and a collapsed 6-category version of the EGP class measure (cf. Erikson and Goldthorpe 1992) as background controls. We measure respondents' employment status at the time of the interview by distinguishing between full-time employment, part-time employment, (self-reported) unemployment, and economic inactivity. We furthermore utilize a retrospective question on whether respondents have been unemployed in the past five years (ten years in the GSS) in order to differentiate between three types of respondents' personal unemployment history, namely the currently unemployed with and without past unemployment experiences, and respondents who are currently in any of the other employment statuses, but who had some experience of unemployment in the relatively recent past.[15] With respect to the potential economic mediators, we use the log of respondents' household net equivalent income, respondents' subjective sense of difficulties to make ends meet based on their current income, and a

[14] Detailed results are available on request from the authors.
[15] We also tested and could confirm that the effect of past unemployment does not vary systematically between respondents who are currently in full-time employment, in part-time employment, or economically inactive.

measure of respondents' life satisfaction. For the latter, we again harmonize the ESS data into the 3-category format of the corresponding GSS question, but use the full 11-point Likert scale data in our additional ESS-only regression models. For household income, we convert the categorical income data provided in the GSS and ESS into a continuous measure by empirically estimating, separately for each country and survey wave, the log-normal income distributions from the categorical data, by conducting an income imputation based on the estimated parameters, and by using the Luxembourg Income Study's square root equivalence scale to convert the income data to equivalence units in terms of household economies of scale in consumption.

Unfortunately, unlike the case of personal unemployment histories where household income, subjective economic difficulties and life satisfaction might be thought to capture some clearly relevant potential mediators of the causal effect of interest, the GSS and ESS data do not contain equally obvious candidate measures – like items on respondents' subjective fear of job loss, respondents' subjective assessment of the likelihood to find a new job if they should lose the current one, or also the political importance respondents assign to labor market issues – that could serve to directly test the mediating mechanisms behind any (residual) effect of macroeconomic conditions within the standard framework of mediation analysis. In lieu of such direct tests, we will instead examine the direction and magnitude of any interaction effect between macroeconomic conditions and respondents' social class as well as respondents' self-placement on the left-right axis, respectively, in order to gain some indirect insight into whether perceptions of economic threat or perceptions of political failure might be plausible sources of the (negative) relationship between macroeconomic shocks and political trust (cf. Anderson and Singer 2008, van der Meer and Hakhverdian 2017 for related approaches). Finally, because our empirical estimates were speaking to quite persistent negative effects of past unemployment on political trust, we also present one set of regression

specifications that permit us to examine the temporal persistence of any causal effects of the macroeconomic covariates in our model. To that end, we allow for lagged effects of both the output gap and the unemployment rate in the prime-age workforce to yield the generic regression model

(2)
$$
\begin{aligned}
Y_{ict} = \beta_0 &+ \boldsymbol{\beta_1}\begin{pmatrix} OUTPUT\ GAP_{ct} \\ OUTPUT\ GAP_{c,t-3} \\ OUTPUT\ GAP_{c,t-5} \end{pmatrix} + \boldsymbol{\beta_2}\begin{pmatrix} UNEMPLOYMENT\ RATE_{ct} \\ UNEMPLOYMENT\ RATE_{c,t-3} \\ UNEMPLOYMENT\ RATE_{c,t-5} \end{pmatrix} \\
&+ \boldsymbol{\beta_{3ct}}\, EMPLOYMENT\ STATUS_{ict} \\
&+ \boldsymbol{\delta_{ct}}\begin{pmatrix} HOUSEHOLD\ INCOME \\ SUBJECTIVE\ ECONOMIC\ DIFFICULTIES \\ SUBJECTIVE\ WELL-BEING \end{pmatrix}_{ict} \\
&+ \boldsymbol{\gamma_{ct}}\mathbf{X_{ict}} + \mathbf{u_c} + \nu_{ct} + \varepsilon_{ict}
\end{aligned}
$$

where we choose the specific lags of T-3 and T-5 to respect the fact that both the GSS and the ESS provide data at biannual intervals only. As the lagged covariates by definition are correlated with the vector of country-specific trends $\mathbf{r_c}t$, we have to omit the latter for this exercise. For all practical purposes, however, equation (2) is empirically equivalent to our main specification since we find that, other than for the opportunity to incorporate lagged effects of the macroeconomic covariates, our results are in fact not materially affected by this change in the model specification otherwise (also cf. footnote 10 above).

## 4 The evolution of political trust in the Great Recession

Before presenting the empirical estimates from our regression specifications, it seems worthwhile to examine the GSS-ESS survey data somewhat more descriptively first in order to convey a clearer sense of the depth of the Great Recession and the associated response in political trust in our sample countries. Focusing on parliament as the signature institution of democratic governance, Figure 2 plots the aggregate relationship of political trust in the national parliament against the standardized unemployment rate in the core workforce for the 140 country-wave observations available in our database for the United States and 20

European countries and up to seven national survey waves fielded between 2002 and 2014. We express the degree of political trust as the proportion of working-age respondents who stated to have at least "some trust" in the national parliament, which also corresponds to our preferred choice of threshold in this dependent variable in the subsequent regression modeling. Next to the scatterplot of the raw data, we provide the estimated lowess curve, and also single out the observed 2002-14 trajectories in a few selected country cases.

FIGURE 2 ABOUT HERE

As far as the aggregate relationship is concerned, the lowess regression indeed speaks to a clear negative association between trust in parliament and the core unemployment rate. The association in fact is almost perfectly linear across the observed range of unemployment rates, which then also provides a belated empirical justification for the evident lack of any functional form considerations in our above discussion of model specification.[16] Of course, as a consequence of the Great Recession, the observed range of unemployment rates in the core work force is indeed quite broad by historical standards, ranging from cases of or near full employment (e.g. the Nordic countries, Switzerland and the Netherlands that make up the observations in the top left corner of Figure 2) to other cases where unemployment rates have reached 15% or more even among prime-age workers, like in Spain, Ireland or Greece after 2008. Across Western economies (those in our GSS-ESS sample and beyond), the Great Recession has in fact not just shifted up unemployment rates on average, but has also increased variation between countries.

[16] This visual impression is also confirmed more formally in our regression analysis. Allowing for non-linearity in the effects of macroeconomic conditions on political trust does not improve model fit at all.

In addition, we chose to highlight a few selected country cases in Figure 2 in order to emphasize that our finding of quite smooth and strong relationships for the economic foundations of trust (here and in the subsequent analysis) should not be misread to imply any claim of equally smooth, let alone uniform historical trajectories and uniform causal relationships in each single country case. By way of illustration it is of interest to note that the trajectories of declining political trust in both Spain and Greece, two Southern European economies hit particularly harshly in the Great Recession, broadly conform to the general relationship that we find in Figure 2. Yet in either country, the trend has been far less smooth than the aggregate relationship summarized across the 148 country-year observations in the lowess curve. In Greece, we see a drastic fall in political trust already well before the crisis and while unemployment was still relatively mild and unchanging, but then the extreme fall in political trust between 2008-10 of course fully fits the bill of a strong political response to extreme economic adversity. In Spain, labor markets might have been even worse than in Greece, but it is interesting to observe that political trust fully held up until 2010, i.e. around two years into the recession, and only broke down as the crisis wasn't resolved even then.

At the opposite extreme, consider the U.S. case. Here, trust in Congress has also declined quite dramatically over the first decade and a half of the 21st century, but one would be hard pressed to argue for any role of the Great Recession in this. Trust in Congress declined more or less continuously during the period, ironically even stabilized briefly precisely during the worst moments of the recession between 2008-10, and then began sliding again as labor markets improved (cf. Brooks and Manza 2013 for an in-depth analysis of the U.S. case that also emphasizes the very limited role of the Great Recession). And as a final, and in some sense equally opposite example, take the case of Germany. Germany is a particularly interesting case because, while taking a hard macroeconomic shock like many other economies, the country was able to avoid any serious labor market repercussions (cf.

Dustmann et al. 2014). In fact, unemployment rates fell continuously from the mid-2000s and Figure 2 documents a clear and contemporary increase in political trust. The German case hence does not, incidentally, merely conform closely to the aggregate lowess curve, but also suggests the relationship between labor markets and trust to be fundamentally symmetric. Recessions may depress political trust, but overcoming them may again restore trust.

*The macro- and microeconomics of trust in the parliament*

Our subsequent regression analysis of course cannot address each and every historical detail of national trends in political trust, but instead aims to distil empirical evidence on broadly generalizable patterns in trust responses to a macroeconomic shock. We begin the presentation of our regression evidence by again focusing on trust in the parliament exclusively, both because of parliament's pivotal role in democratic governance and also because we believe that focusing on a single dimension of trust first will help readers to follow the rationale of our analysis before moving on to multi-dimensional comparisons of the macro- and microeconomics of political trust in the next section. Table 1 has the core estimates of interest from our regression models. We present our evidence in a sequential order of increasingly complex model specifications that match the funnel of causality in our theoretical model by successively incorporating further intermediate causes of trust between the baseline (M1) and our most encompassing mediation model (M6); models M7 and M8 complement this evidence by providing the results from the alternative model specification that also allows for lagged effects of the two macroeconomic covariates (equation 2).

TABLE 1 ABOUT HERE

Table 1 in fact contains a range of signature results that are of pivotal relevance to our study. The baseline model (M1) first of all confirms, not very surprisingly at this point, that

macroeconomic shocks tend to imply a declining trust in parliament. Given that we have identified this estimate against controls for unspecific country differences in levels of trust, idiosyncratic country-specific trends in political trust, and against key socio-economic predictors of economic location and political trust at the individual level, we are, with all the usual provisos, in fact willing to defend it as a plausibly causal effect estimate. And although the estimate of $\beta_1 = -0.005$ might look numerically small at first, it does imply that the probability to have at least some trust in parliament may (on average) have declined by as much as a straight 5 percentage points in those countries hit most severely in the Great Recession, where the estimated output gaps rose to 10% of potential GDP or even more.

Moreover, model M2, the first step in our sequential modeling exercise, confirms our second hypothesis that it is indeed the shock to the aggregate labor market that triggers the negative trust response. Rising unemployment rates in the core workforce have an evident negative causal impact on trust in the parliament. At an estimated $\beta_2 = -0.015$ this effect is quantitatively even more substantial than our estimate for the output gap effect. During the Great Recession, a fair number of countries experienced core unemployment rates rising by 5 percentage points or more, and our estimates imply that the probability of placing trust in the parliament may have declined by upwards of fully 7-8 percentage points in direct consequence. The prediction easily doubles for the extreme experiences of Spain and Greece where unemployment rates in the core workforce rose by 10 percentage points and more, so that citizens' trust in democratic decision-making may have easily dropped by fully 15 percentage points. And model M2 signals that the recession impact on trust is through the labor market alone. Controlling for labor market adversity with the single indicator of unemployment in the core workforce completely mediates away any impact of the output gap measure. At least as far as a macroeconomic shock is concerned, citizens thus primarily

evaluate democracy for its labor market performance, presumably the most tangible economic arena for the broad majority of citizens.

This conclusion also does not change with model M3 that adds the microlevel channel of personal unemployment history, although the model does again contain some important insights. To begin with, and as expected, personal unemployment experiences also cause a decline in political trust. On average, the probability that citizens place trust in parliament declines by about 6-7 percentage points among respondents currently unemployed at the time of the survey interview relative to respondents who are in full-time employment ($\beta_{3.1} = -0.062$ among workers without prior unemployment, and $\beta_{3.3} = -0.069$ among workers with prior unemployment experiences in recent years). Again, we deliberately adopt a terminology of "decline" to indicate our willingness to defend these estimates as causal, given our focus and the structure of our regression model. We are equally willing to concede that, absent genuine panel data on individual respondents (that would permit for the implementation of FE or related approaches also on the individual level of the hierarchical model), causal identification of the individual-level treatment effects requires stronger conditional independence assumptions in the context of our model specification than for the macroeconomic effects discussed before. At the same time, we hold that, even with the relatively parsimonious array of socio-economic controls available to us in the cross-sectional GSS-ESS, we are likely to capture the main determinants of respondents' economic location, and therefore also the main predictors of personal risks of unemployment. Again, this should not imply the claim that our individual-level treatment effect estimates are entirely without bias, but rather that we are convinced that any remaining unobserved selectivity of the

unemployed with respect to levels of political trust is likely to be relatively minor and therefore equally unlikely to undermine our principal inferences.[17]

That said, two additional features of model M3 seem noteworthy. First, adding the microeconomic channel of personal unemployment histories does essentially nothing to mediate the impact of aggregate labor market conditions on political trust. That is, while deteriorating labor markets certainly imply a rising proportion of workers with a history of unemployment during a recession – the literal meaning of rising unemployment rates – this compositional effect is not the major aspect of how macroeconomic shocks affect political trust. Instead, the two channels transmitting an effect of unemployment on political trust operate largely independently of each other: there is a clear negative impact of personal unemployment histories on trust (the micro channel), but there is an equally clear and independent negative effect of adverse conditions in the labor market that affects political trust among all (working-age) citizens, independently of their personal employment status.[18] Above all, the failure of personal (changes in) employment status to make more of a compositional dent as an explanation of declining political trust is due to the relatively benign empirical magnitude of the microlevel effect: an average treatment effect in the order of 6-7 percentage points speaks to a consistent negative response to personal unemployment, yet at the same time the effect size is far too small for making a sharp labor market insider-outsider dynamic a main narrative to explain declining levels of democratic trust in a recession.

[17] Bauer's (2018) recent study might seem to contradict this statement. Due to the relatively short observation window of the two panel studies available to the empirical analysis, his study identifies the immediate political effects of the incidence of short unemployment spells in practice. This is a worthwhile effort, but it also implies that any persistent effects of either past unemployment experiences or also of current long-term unemployment is statistically removed from the analysis and relegated to the person-specific fixed effect term. We, again, do not wish to claim our own estimates of the microlevel treatment effect of unemployment as definite, but we also consider the (implicit) identification assumptions in Bauer (2018) as overly conservative in theoretical terms.

[18] Extended model specifications in fact reveal the existence of a small cross-level interaction effect whereby adverse labor market conditions slightly reinforce the negative effects of personal unemployment history on trust. In the name of a more straightforward presentation of the main results, and given the relatively minor substantive magnitude of the cross-level interaction, we pragmatically utilize the more parsimonious model specification of equations 1 and 2 in the present analysis.

Second, and in some respects more worrisome, however, there is the finding that past unemployment experiences continue to exert a clear negative effect on trust even well after the event. In M3, we were able to include an indicator of unemployment incidence in recent years also for respondents who are currently not unemployed (i.e. who are either full-time or part-time employed, or economically inactive at the time of the interview), and we obtain a clear negative effect estimate also for this covariate. In fact, the estimate of a $\beta_{3.2} = -0.047$ percentage points reduction in levels of trust implies that most of the one-time effect of personal unemployment on trust does not recede after citizens had been able to move out of unemployment, so that an important scar effect of personal unemployment on trust remains. In view of this finding we estimated a model that tests for the presence of lagged effects also on the macroeconomic level (M7 in particular), but there is much less evidence of persistent negative effects in this case. There is some evidence of lagged negative effect of labor market conditions, but already at a lag of T-3 years the estimate ($\beta_{2.2} = -0.007$) is only half the contemporaneous estimate and only marginally statistically significant at a level of $p<.10$. At T-5 years, there is not the slightest evidence of a lagged effect of aggregate unemployment at all, so that effect persistence is much less of an issue on the macroeconomic channel. Citizens in other words respond to changing labor market conditions in a relatively contemporaneous fashion, but the personal experience of unemployment seems to create more durable political resentment.

*Distrust in democracy or alienation? Examining variation across dimensions of trust*

Before entering into any discussion of the mediation models M4-M6 and the specific mechanisms that may underlie the observed effects of both aggregate and personal unemployment on political trust, we can use our specification M3 to compare our core estimates for the role of unemployment across multiple political institutions and dimensions of trust. Figures 3 and 4 provide the respective empirical results, replicating M3 for trust in

the legal system with the joint GSS-ESS data, and for all five institutions and predicting average trust levels on an 11-point Likert scale (rather than using a qualitative threshold) for the 20 European countries comprising our ESS database. Figure 3 has the results on the impact of aggregate labor market conditions, Figure 4 displays our estimates for the effect of personal unemployment histories on political trust. For efficiency of presentation, Figures 3 and 4 report the estimates from our core specification (M3) as well as for our final mediation model (M6), but we will address issues of mediation below in the next section only. Full details on the regression estimates are available in Appendices A1 and A2.

FIGURE 3 ABOUT HERE

To start with the macroeconomic channel, Figure 3 provides ample evidence in favor of our hypothesis (H6) that citizens differentiate between democratic decision-makers and other branches of public institutions in their response to deteriorating labor market conditions. In the joint GSS-ESS sample, the negative effect of the aggregate unemployment rate on trust in the legal system is merely one third of our estimate for the corresponding effect of the unemployment rate on trust in the parliament. Likewise, in the more differentiated analysis that uses ESS data only, there is a sharp contrast between trust in parliament and in politicians on the one hand, and trust in the legal system and in the police on the other. The causal effect of unemployment rates on trust in any one of the latter two executive institutions is merely one half of the impact of unemployment rates on both trust in parliament and trust in politicians, while the decline in trust in political parties falls in the middle between either extreme.[19] Turning to the results for the microeconomic channel,

[19] Interestingly, it is here where the choice of model specification for once matters for the results that we report. If we were to adopt the less stringent specification without country-specific trends – i.e. paralleling equation 2 but omitting lagged macroeconomic effects – the estimate for declining trust in parties lines up with the high end marked by the large negative effects for trust in the parliament and trust in politicians. For methodological

Figure 4 does not repeat this same storyline, however. Instead, the findings are excessively simple: personal unemployment histories generate not a differentiated, but rather a broad-scale response in terms of political trust. Whatever sample and dimension we look at (cf. the left and middle panels of Figure 4), we obtain the same picture in both quantitative and qualitative terms: there are sizeable negative effects of personal unemployment experiences on political trust, these negative effects persist also after respondents had been able to escape from joblessness, and the quantitative magnitudes of the effect estimates are remarkably similar and consistent across all analyses. In contrast to changing macroeconomic fortunes, personal experiences of unemployment thus lead to lasting political alienation across a broad range of institutions, not merely a contemporaneous decline in trust that is mainly directed at democratic decision-making.

FIGURE 4 ABOUT HERE

*Mechanisms (I): deprivation and dissatisfaction among the unemployed*

These strong and consistent findings on the role of labor market adversity for political trust evidently beg the question as to what might be the mechanisms behind these plausibly causal relationships. As it turns out, it is possible to answer this question relatively easily for the microeconomic channel of personal unemployment histories, where the GSS-ESS survey data permit us to conduct a straightforward mediation analysis – with, moreover, some clear enough results. Returning to Table 1 and the case of trust in the parliament first, the

reasons, we continue to prefer the estimates that we present and discuss, but we like to note this instance where methodological assumptions demonstrably matter for inference. In case of trust in parties, but also only in this particular case, it is obviously the case that, at least in some countries, there is a secular trend of declining trust in parties that correlates with the trend in aggregate unemployment rates. In our preferred specification (i.e. equation 1), we treat this as a contemporaneous correlation that is not causally attributed to the labor market, while in an equation 2-type specification the correlated secular trend would become (statistically) interpreted as being caused by rising unemployment rates.

mediation specifications M4-M6 provide our estimates of the empirical decomposition of the average treatment effect (from M3) into a direct (residual) and an indirect (explained) part, sequentially adding household equivalent incomes, subjective economic difficulties, and life satisfaction as mediators. In a nutshell, the mediation specifications show that these three simple factors are empirically able to largely account for the negative effect of current personal unemployment on trust in the parliament in our GSS-ESS sample.

In M4, adding household income into the equation reduces the negative effect of current personal unemployment (both with and without past unemployment history) from about 6-7 percentage points to merely 4-5, i.e. accounts for about one quarter of the treatment effect estimate. In M5 we add subjective economic difficulties to the specification and find a further reduction in the (residual) direct effect estimate to a bit over 2 percentage points. Taken together, our objective and subjective measure of economic deprivation thus already account for some two thirds of the total treatment effect estimate. And M6 adds in a life satisfaction measure and brings the residual direct effect down to somewhere between 1-1.5 percentage points, thus having accounted for some 75-85% of the overall treatment effect estimate and bringing the residual direct effect down well beyond any conventional levels of statistical significance.[20] In addition, the inclusion of mediators, especially of the economic deprivation measures in models M4 and M5, also clearly reduces the random slopes in the coefficient estimates. In other words, cross-national differences in the relationship between unemployment and economic deprivation are in part causing the observable contextual

[20] We deliberately use causal language here. The three mediators have been carefully chosen to reflect economic and personal deprivation as well-known consequences of job loss (e.g., DiPrete and McManus 2000, Wanberg 2012, Brand 2015, Burgard and Kalousova 2015). Absent panel data on individual respondents, we of course are empirically prevented from identifying the effects from longitudinal (over-time within-person) changes in economic or personal well-being. But against a large research literature that consistently shows these consequences to be causal implications of unemployment, whereas, conditional on gender, age, education and social class, the unemployed are unlikely to be strongly selected on economic deprivation or well-being, this causal language seems defensible to us, and we wish to be transparent about our assumption that we see residual variation in our mediators as largely (though, given data constraints, not necessarily exclusively) caused by the experience of unemployment.

variation in the effect of personal unemployment history on trust. Space considerations prevent us from pursuing this point any further in the present manuscript, yet we note this as a fruitful avenue for further analysis given the significant variation in welfare state generosity across the countries in our GSS-ESS sample.

This whole pattern of results is in fact fully confirmed in the additional analyses presented in Figure 4, i.e. using GSS-ESS data on trust in the legal system and ESS data on all five political institutions. In each case, economic deprivation and personal dissatisfaction successfully account for the treatment effect of current unemployment, or at the very least for a major part of it. Interestingly, the evidence of Table 1 and Figure 4 is also consistent in another respect, namely that we are far less able to account for the durable negative impact of past unemployment history on political trust. In each and every model, the fraction of the treatment effect of past unemployment that is accounted for by the three mediators is smaller than for the other two types of unemployment history; in Table 1 for trust in the parliament, for example, it is merely around 50% and our measures of economic deprivation in particular have less explanatory power than among the currently unemployed. Though economic circumstances as well as personal satisfaction are known to rebound over time after leaving unemployment, it seems as if citizens' subjective expectations have more lingering associations with earlier times, or at least that the political content in their attributions of the incidence of personal economic adversity outweigh any political credit they may attribute for overcoming their personal unemployment. But again, our repeated cross-sectional survey data is less than ideally suited to explore these or related notions any further, and so we need to leave a more detailed analysis to studies that are able to draw on genuine panel data.

*Mechanisms (II): perceptions of economic threat and political failure in the citizenry*

Compared to this straightforward mediation analysis along the microeconomic channel, it is somewhat harder for us to use the GSS-ESS data to also shed light on those mechanisms that

might produce the causal effect of aggregate labor market conditions on trust. Unfortunately, the GSS and ESS do not contain much in the way of data on subjective economic perceptions or also specific policy preferences, let alone data measured in a consistent fashion across both datasets, that could be used to conduct a standard mediation analysis also for the macroeconomic channel of influence. As an imperfect substitute, we resort to a final analysis of the moderating role of two structural antecedents of perceptions of economic threat and political failure, respectively, in order to examine whether and to which extent these might be the mechanisms that underlie the negative relationship between aggregate labor markets and political trust. To that end, we augment our core specification (M3) by adding interactions between aggregate unemployment rates and social class on the one hand, and between unemployment rates and respondents' self-reported placement on the left-right axis, the latter available in the ESS data only, however. In doing so, we take class as a structural predictor of economic risk and left-right placement as a structural predictor of respondents' attribution of political responsibility for macroeconomic management; in substantive terms, we expect that respondents with self-reported positions on the political left assign a stronger political role in macroeconomic management, and that their political response to an adverse macroeconomic shock should be comparatively more negative as they are more likely to view of the latter in terms of political failure (cf. Anderson and Singer 2008, van der Meer and Hakhverdian 2017 for related analyses). Likewise, working class respondents empirically face higher economic risks (both during and out of a recession), so that we would take any more negative response to macroeconomic shocks on their part as an indication of the role of economic threat for political trust.

FIGURE 5 ABOUT HERE

Figure 5 provides the key results from these final two specifications, both estimated across all available combinations of survey data and dimensions of trust. With respect to manifest economic threat, our empirical evidence in fact flatly contradicts the theoretical hypothesis. As evident from panel a) in Figure 5, and consistent across all models and dimensions of trust, working class respondents consistently show the comparatively smallest decline in trust in response to a macroeconomic shock.[21] Apparently, citizens' trust response to deteriorating labor market conditions is therefore not primarily driven by objective levels of economic threat. It still may well be the case that respondents' subjective perceptions of economic threat – on which we unfortunately don't have direct information in the GSS-ESS datasets – would act as a relevant mediating factor, yet our own analysis at least suggests that such subjective perceptions are unlikely to be strongly correlated to objective risks, and that middle class respondents are likely to significantly overestimate the actual economic risk they are personally exposed to during a recession, maybe because these citizens might also be more sensitive to cyclical patterns of media attention or because their relevant economic orientations are sociotropic rather than egocentric.

On the political side of things, our evidence bears out our expectations, however. Panel b) on the right-hand side of Figure 5 demonstrates that, as expected, citizens who place themselves on the political left also tend to be more politically sensitive to labor market shocks. Across all five dimensions of political trust measured in the ESS data, left-leaning respondents exhibit a comparatively larger decline in political trust in response to rising unemployment rates than otherwise comparable citizens who are leaning to the political right.[22] Inspected at a finer level of detail, the strongest left-right differentials are observable

[21] To maintain readability, we have omitted confidence intervals in Figure 5. The interaction terms that compare the smaller effects of aggregate labor market conditions among working class respondents to the larger effects among respondents in professional occupations are statistically significant in each single specification (cf. Appendix A3).

[22] Again, the relevant interaction terms are all statistically significant in each single specification.

for trust in police, trust in the legal system, and trust in parliament, rendering the political response to deteriorating labor markets much more "systemic" on the political left than on the political right. It is only on the right that a clear distinction emerges between significant declines of trust in parliament, politicians, and political parties, i.e. in democratic decision-making and decision-makers, on the one hand, and near zero changes in trust in the executive organs of the police and the legal system on the other. For the left, in contrast, it is only trust in the police that is exhibiting a milder, but still statistically significant decline, whereas the negative responses in terms of declining trust in parliament, parties, politicians, and even in the legal system are evident and of comparable magnitudes.

## 5 Discussion and conclusions

In our analysis, we find clear empirical evidence that political trust in Western countries has declined during the Great Recession. Indeed, our analysis suggests that it is highly appropriate to adopt stronger causal language: it is not just the case that, descriptively and potentially due to a multitude of causes, political trust has happened to decline during the Great Recession, but it is true that the macroeconomic shock itself has been an evident cause of citizens' declining trust in democratic governance. Using GSS and ESS survey data for the years 2002-2014, we obtain consistent evidence for a negative effect of the recession on political trust under quite restrictive identification assumptions that intended to safeguard our causal inferences against bias from misattributing causality to a host of alternative contemporaneous processes and explanations, including unobserved sources of country-specific political culture or country-specific idiosyncratic historical trends in institutional trust in the first decade and a half of the 21$^{st}$ century. We were able to show that macroeconomic shocks assume political relevance primarily if, when and where recessions create negative spillovers in the labor market, and also that it is citizens' trust in the actors and institutions of democratic decision-making, i.e. trust in parliament and politicians rather

than trust in the executive institutions of the police and legal system, that disproportionately suffers in consequence. This differentiated response as well as our additional finding that recession-driven declines in trust are more pronounced among left-leaning citizens suggest that the underlying evaluation is in important respects sociotropic and political in nature: citizens conceive of macroeconomic shocks as a political failure, and respond accordingly. Also, this statement does not rule out the additional relevance of economic mechanisms, but even the limited evidence that we were able to obtain suggests that these would also likely to be rooted in sociotropic economic orientations rather than in personal economic risk.

That said, our analysis also did show an important and independent role of personal employment histories, so that it is empirically useful to distinguish between a macro- and a microeconomic channel of influence when discussing the political consequences of recessions. Over and above the effects of macroeconomic and political context as well as those of private economic location, personal experiences of unemployment also contribute to lower levels of political trust. Absent genuine panel data on citizens' orientations, we readily concede that causal identification rests on less stringent conditions in this case in the present analysis, but, for reasons discussed before, we also hold that the scope for any remaining bias in our estimates is likely to be limited in practice. Furthermore, the relevant mechanisms as well as the political implications are quite different in case of the microeconomics of unemployment and trust. We find that personal unemployment does not result in a differentiated political response that would primarily fault democratic decision-making for personal economic adversity, but rather in a pattern of political alienation and across-the-board declines in political trust. Yet personal economic adversity is indeed the culprit, as we find that the three simple measures of household income, subjective economic difficulties and subjective life satisfaction are sufficient to entirely mediate the political impact of respondents' current unemployment.

Taken together, our strong empirical evidence on a causal role of macroeconomic shocks for political trust is to some extent at odds with the received literature in political sociology. At least in its political science strand, it seems fair to conclude that most authors tend to assign a rather limited role to economic performance when explaining trends in political trust (e.g., Dalton 2004, Newton 2007), based on mainly lackluster results in a string of well-known empirical studies, but also on the notion that economic performance might have a less evident relationship with trust than with government approval, as attribution of responsibility would be more clearly directed at the latter, and as political trust is, in the tradition of civic culture research, usually thought of as being a matter of more principled support and hence as a political value that is more isolated from the vagaries of current economic turbulence. In our view, there are both statistical and substantive aspects that might explain why the tenor of our evidence is so different than in the received literature in political science. On the statistical side, our own analysis is surely superior to many earlier studies in terms of pure statistical power. We have been fortunate to be able to use extensive survey data from 21 countries and sample sizes of up to 160,000 respondents, and we also have maximized statistical power by focusing on average impacts (not the least across time and space) and by leaving a closer examination of individual country cases as well as any systematic variation between countries to future work. And it surely is a feature of an "effects-of-causes"-type analysis that statistical power increases due to the focus on isolating the effects of a single potential cause, and the avoidance of (statistical and substantive) problems of overcontrolling bias or distractions like proportion of variance explained. And, mixing the statistical and the substantive, we certainly have the experience of the Great Recession as a natural experiment that has, methodologically speaking, yielded a sharper, more extensive historical stimulus to evaluate some political implications of labor market adversity than were historically observable for many earlier studies using data for the 1980s

or 1990s. And of course it could be, although that would be the substantively direst explanation of all, that that isolating buffer of principled democratic good-will might have been more prevalent two or three decades ago than during the current decade that we have examined. But it is remarkably clear from our present analysis that, whatever the historical precursors, the macroeconomic shock of the Great Recession has had the causal effect of reducing citizens' trust in democratic decision-making.

In comparison, our results are much more in alignment with the social exclusion perspective in sociology and other literatures that focus on the implications of personal unemployment histories. Like many of these studies, but maybe again more clearly than it is often the case, we find negative effects on political trust also through this microeconomic channel of influence, and it seems particularly worrisome to report that the pattern is one of a broad-based distrust and political alienation that is systemic rather than solely being directed at democratic decision-making. But in two respects we would argue that our present study unites and even goes beyond both strands of the literature. As regards unification, it has been a very interesting empirical result from our multilevel analysis that the macro- and the microeconomic channel of influence operate, for all practical purposes, independently of each other. Recessions create a negative sociotropic effect on trust in response to the aggregate economic shock, but they also create a more egocentric response through the channel of (a rising share of citizens with) personal unemployment experiences and the negative effects of personal economic and social deprivation they engender.

FIGURE 6 ABOUT HERE

Going beyond either strand of the received literatures, we finally like to emphasize the result that recessions have more than a contemporaneous impact on political trust, but rather

leave a historical legacy. This is actually less of an issue with the sociotropic, macroeconomic channel of influence, where we find evidence for some limited time lag in the negative effects of a past recession on today's level of political trust, but then a complete rebound of political trust in the more medium run, i.e. by about half a decade later. Stronger legacy effects seem to occur at the individual level, however. According to our results, we find very little in the way of rebounding even as respondents were able to overcome unemployment, so that the negative effects on political trust among respondents several years out of unemployment were of almost the same magnitude as among the currently unemployed (also cf. related results in Polavieja 2013). And it surely is one legacy of the Great Recession to have left the mark of an unemployment record in many citizens' life courses, even if they are living in countries where the economy at large is rebounding. As Figure 6 illustrates, the share of the working-age citizenry with past unemployment histories has sharply increased in most of the countries in our sample, and this observation applies even to countries like Germany or the United States where the falling share of current unemployment is indicating that aggregate labor markets are clearly improving. Yet our estimates imply that the democratic legacy of the Great Recession will be with us for some time to come because those who experienced it first-hand are unlikely to overcome their political disaffection quickly.

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## Tables and Figures

FIGURE 1
A stylized model for the impact of economic downturns on political trust

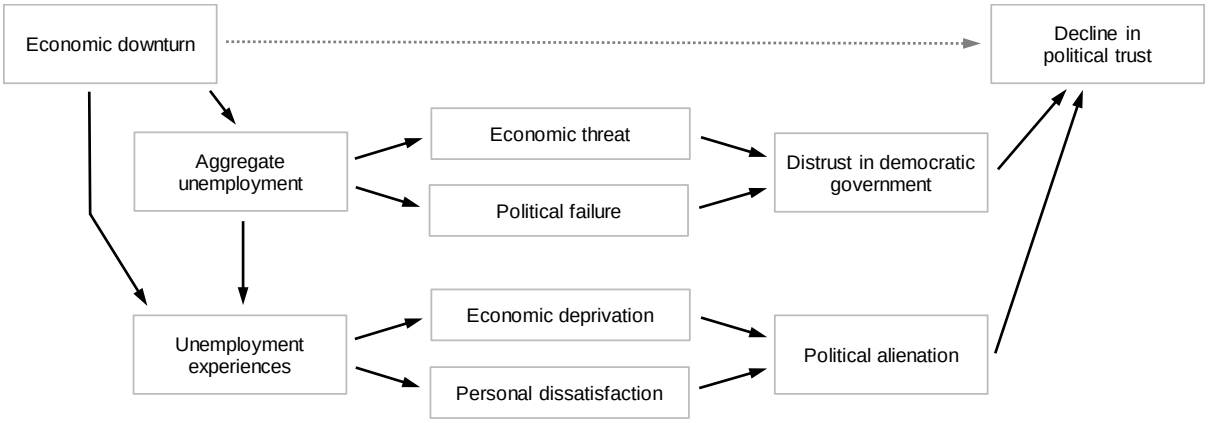
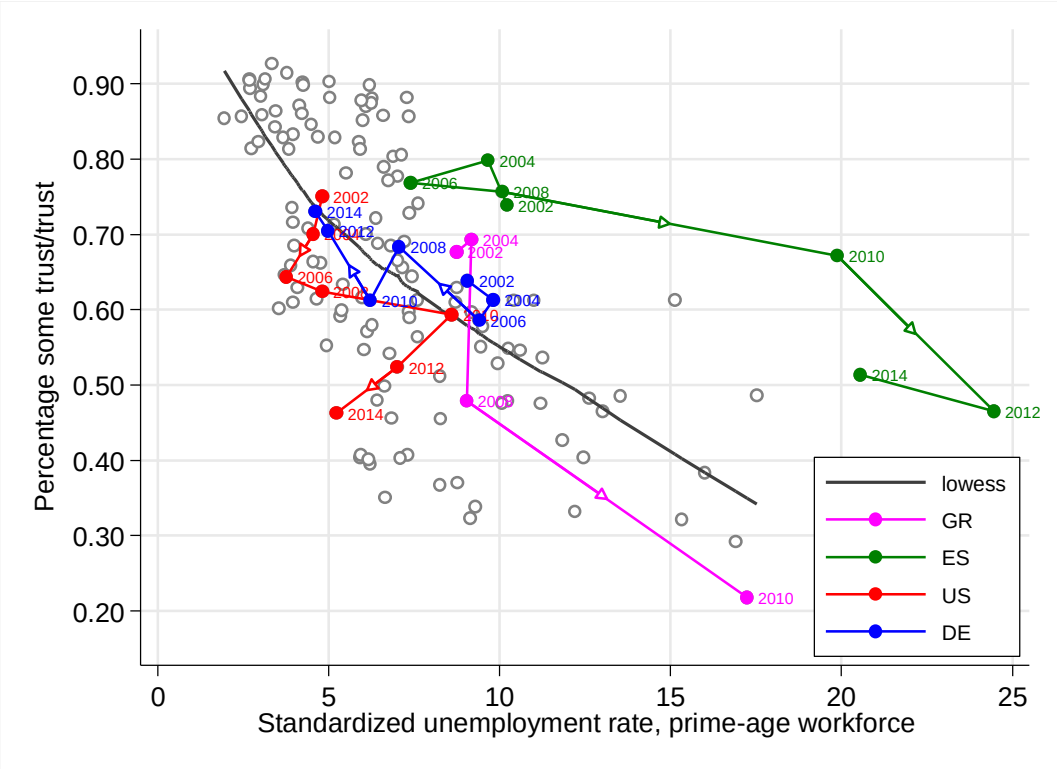


FIGURE 2
Macroeconomic conditions and trust in the national parliament, 2002-2014



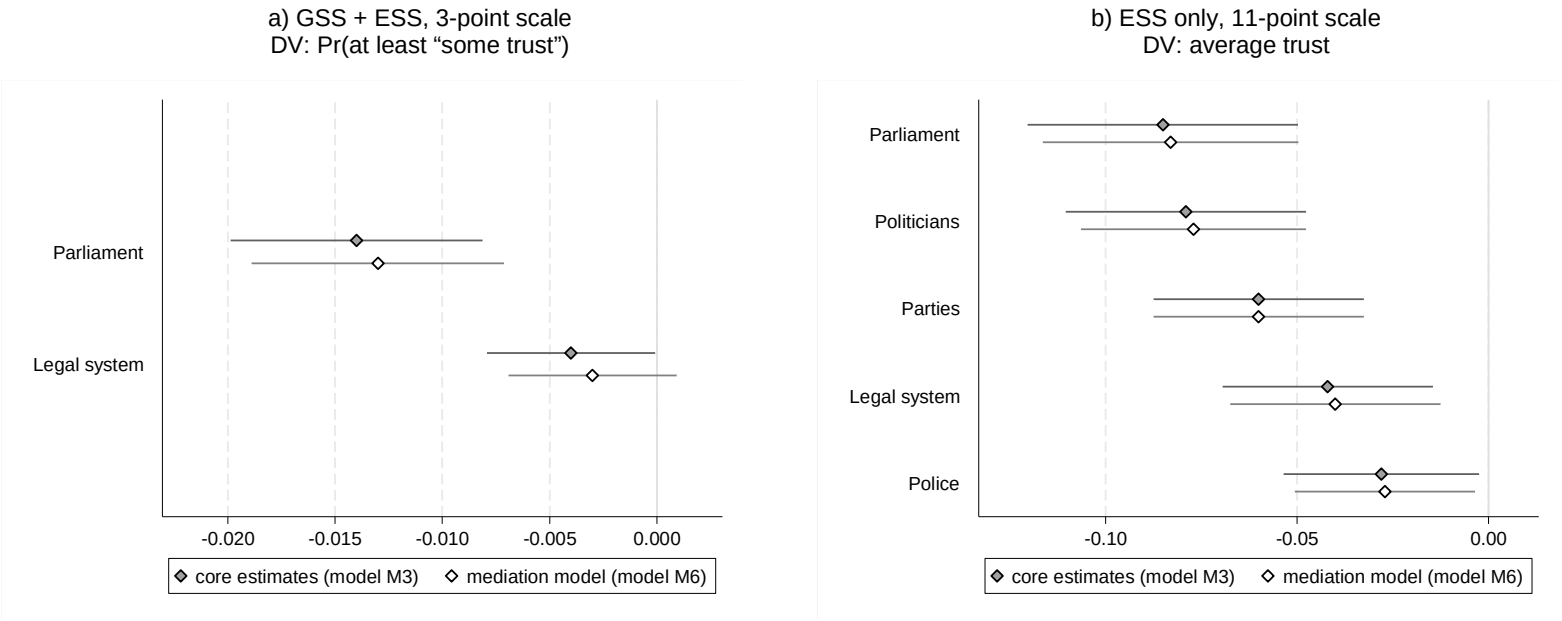

Notes: Dependent variable is the probability of survey respondents stating to have at least "some trust" in the national parliament on a 3-point scale; N = 140 survey waves from 21 countries, N respondents = 160.204
Source: General Social Survey, European Social Survey 2002-2014

TABLE 1
The impact of an economic downturn on trust in the national parliament:
macro- and microeconomic channels of influence

| | (M1) baseline | (M2) + aggreg. labor market | (M3) + employ-ment status | (M4) mediation A: + hh. income | (M5) mediation B: + subj. income | (M6) mediation C: + sa-tisfaction | (M7) Lagged effects, spec. M3 | (M8) Lagged effects, spec. M6 |
|---|---|---|---|---|---|---|---|---|
| Fixed effects | | | | | | | | |
| Constant | 0.603*** | 0.605*** | 0.617*** | 0.616*** | 0.662*** | 0.683*** | 0.622*** | 0.687*** |
| | (0.007) | (0.007) | (0.007) | (0.007) | (0.007) | (0.007) | (0.008) | (0.008) |
| Output gap | -0.005*** | 0.000 | 0.000 | 0.001 | 0.001 | 0.001 | -0.000 | 0.000 |
| | (0.001) | (0.002) | (0.002) | (0.002) | (0.001) | (0.001) | (0.002) | (0.002) |
| Output gap T-3 | | | | | | | 0.001 | 0.002 |
| | | | | | | | (0.002) | (0.002) |
| Output gap T-5 | | | | | | | 0.005** | 0.005** |
| | | | | | | | (0.002) | (0.002) |
| Core unemploy-ment rate | | -0.015*** | -0.014*** | -0.014*** | -0.014*** | -0.013*** | -0.012*** | -0.011*** |
| | | (0.003) | (0.003) | (0.003) | (0.003) | (0.003) | (0.003) | (0.003) |
| Core unemploy-ment rate T-3 | | | | | | | -0.007* | -0.007* |
| | | | | | | | (0.003) | (0.003) |
| Core unemploy-ment rate T-5 | | | | | | | 0.000 | 0.000 |
| | | | | | | | (0.003) | (0.003) |
| *Employment status* | | | | | | | | |
| - unemployed, no previous spell | | | -0.062*** | -0.045*** | -0.024* | -0.015 | -0.062*** | -0.015 |
| | | | (0.011) | (0.011) | (0.011) | (0.011) | (0.011) | (0.011) |
| - unemployed in past, not currently | | | -0.047*** | -0.041*** | -0.029*** | -0.023*** | -0.047*** | -0.023*** |
| | | | (0.004) | (0.004) | (0.004) | (0.004) | (0.004) | (0.004) |
| - past + current unemployment | | | -0.069*** | -0.049*** | -0.021** | -0.009 | -0.071*** | -0.011 |
| | | | (0.008) | (0.007) | (0.007) | (0.007) | (0.008) | (0.007) |
| Ln household equiv. income | | | | 0.030*** | 0.010*** | 0.006* | | 0.006* |
| | | | | (0.003) | (0.003) | (0.003) | | (0.003) |
| Ln household income squared | | | | -0.000 | -0.000 | 0.001 | | 0.001 |
| | | | | (0.001) | (0.001) | (0.001) | | (0.001) |
| Subj. income | | | | | -0.041*** | -0.035*** | | -0.035*** |
| - m/l comfortable | | | | | (0.003) | (0.003) | | (0.003) |
| Subj. income | | | | | -0.122*** | -0.097*** | | -0.097*** |
| - difficult | | | | | (0.005) | (0.005) | | (0.005) |
| Life satisfaction | | | | | | -0.040*** | | -0.039*** |
| - pretty happy | | | | | | (0.004) | | (0.004) |
| Life satisfaction | | | | | | -0.166*** | | -0.164*** |
| - not too happy | | | | | | (0.006) | | (0.006) |
| Country FE | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Ct.-specific trends | Yes | Yes | Yes | Yes | Yes | Yes | No | No |
| Level 2 RE | | | | | | | | |
| $\sigma^2(\nu)$ | 0.044*** | 0.040*** | 0.040*** | 0.039*** | 0.034*** | 0.032*** | 0.057*** | 0.055*** |
| $\sigma^2(\beta_{curr.\ unemp.})$ | | | 0.038 | 0.034 | 0.028 | 0.017 | 0.040 | 0.020 |
| $\sigma^2(\beta_{past\ unemp.})$ | | | 0.030** | 0.026** | 0.025* | 0.025* | 0.031** | 0.026** |
| $\sigma^2(\beta_{curr.+past\ unemp.})$ | | | 0.053** | 0.047** | 0.045* | 0.046** | 0.052** | 0.045* |
| Level 1 RE | | | | | | | | |
| $\sigma^2(\varepsilon)$ | 0.189*** | 0.189*** | 0.188*** | 0.187*** | 0.186*** | 0.184*** | 0.187*** | 0.183*** |
| | | | | | | | | |
| Log-likelihood | -94,302 | -94,292 | -94,082 | -93,869 | -93,281 | -92,578 | -92,054 | -90,607 |
| N countries | 21 | 21 | 21 | 21 | 21 | 21 | 21 | 21 |
| N country-years | 140 | 140 | 140 | 140 | 140 | 140 | 138 | 138 |
| N | 160,204 | 160,204 | 160,204 | 160,204 | 160,204 | 160,204 | 157,305 | 157,305 |

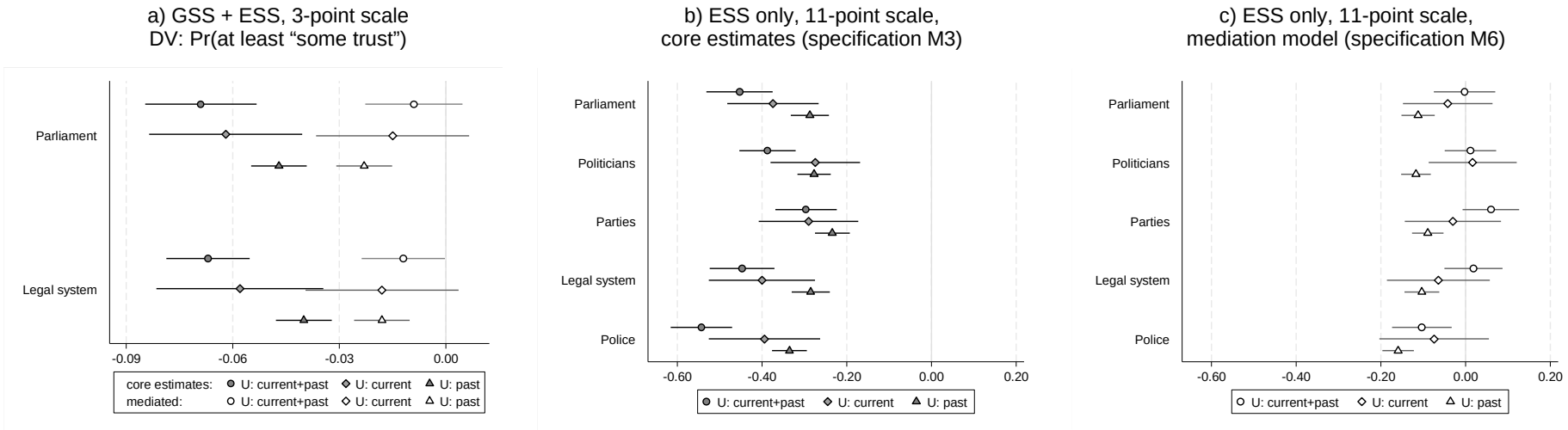
Notes: HLPM regression model, hybrid two-level random slope specification; dependent variable: Pr(at least "some trust"), additional individual-level controls: gender, age (polynomial), level of education, social class; employment status differentials relative to full-time employment, coefficient estimates for part-time employment and economic inactivity omitted (full results are available as an online appendix and upon request). Cluster-corrected standard errors in parentheses, statistical significance levels indicated at * p<.10, ** p<.05, and *** p<.01.
Source: General Social Survey, European Social Survey 2002-2014

FIGURE 3
The effect of aggregate unemployment on political trust, by dimension of trust




Notes: coefficient estimates for the effects of a one-percentage-point change in the aggregate unemployment rate on political trust, whiskers indicate the 95% confidence intervals around the point estimates; cf. appendix tables A1 (M3) and A2 (M6) for additional details
Source: General Social Survey, European Social Survey 2002-2014

FIGURE 4
The effect of personal unemployment experiences on political trust, by dimension of trust

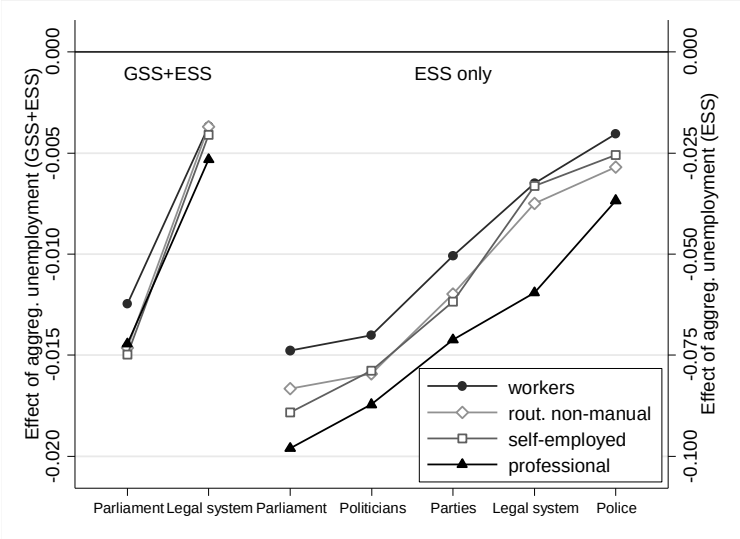



Notes: coefficient estimates for the effect of personal experiences of unemployment (relative to current full-time employment and no unemployment in the past five-ten years) on political trust, whiskers indicate the 95% confidence intervals around the point estimates; cf. Tables 2 (M3) and 3 (M6) for additional details
Source: General Social Survey, European Social Survey 2002-2014

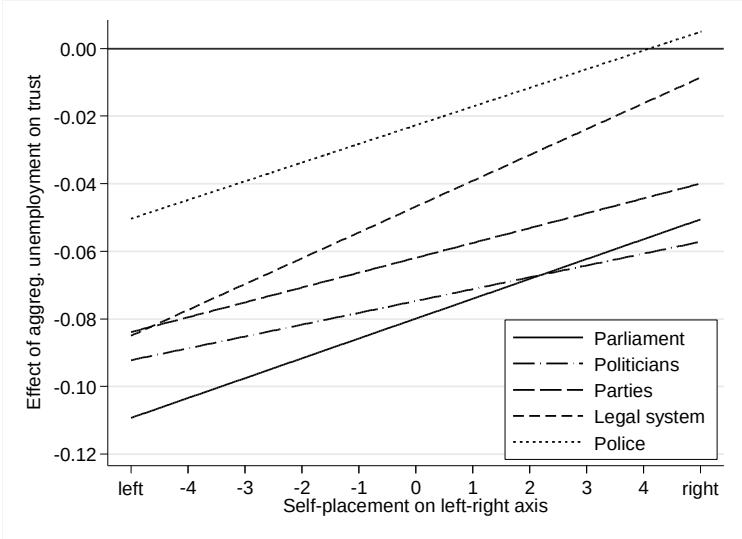
FIGURE 5

The interaction effects between social class, political positions and aggregate unemployment on political trust, by dimension of trust

a) Interaction with social class



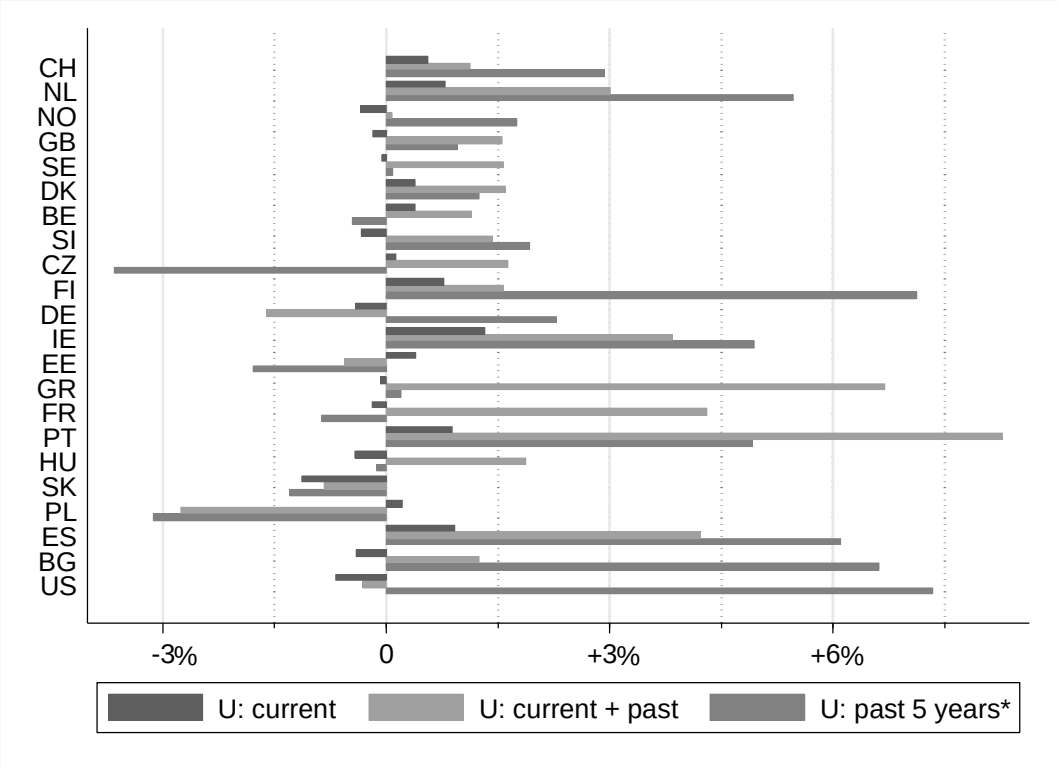

b) Interaction with political position




Notes: coefficient estimates for the effects of a one-percentage-point change in the aggregate unemployment rate on political trust; cf. appendix table A3 for additional details

Source: General Social Survey, European Social Survey 2002-2014

FIGURE 6
The changing prevalence of unemployment histories in the working-age population in 21 countries, 2002-2014




Notes: Respondents aged 16-64; * for US: past 10 years;
BG: 2004-2012, EE, SK: 2004-2014, GR: 2002-2010
Source: General Social Survey, European Social Survey 2002-2014

## Appendix tables/Online supplements

APPENDIX A1

Macroeconomic shocks and personal unemployment history as determinants of political trust, core specification (M3) estimates

| | GSS-ESS dataset | | ESS only | | | | |
|---|---|---|---|---|---|---|---|
| | Parliament | Legal system | Parliament | Politicians | Political parties | Legal system | Police |
| Fixed effects | | | | | | | |
| Constant | 0.617*** | 0.712*** | 4.412*** | 3.458*** | 3.443*** | 5.186*** | 6.037*** |
| | (0.007) | (0.006) | (0.038) | (0.034) | (0.033) | (0.034) | (0.032) |
| Output gap | 0.000 | -0.001 | 0.009 | 0.015* | 0.003 | -0.002 | 0.007 |
| | (0.002) | (0.001) | (0.008) | (0.007) | (0.007) | (0.007) | (0.007) |
| Unemployment rate | -0.014*** | -0.004 | -0.085*** | -0.079*** | -0.060*** | -0.042** | -0.028* |
| | (0.003) | (0.002) | (0.018) | (0.016) | (0.014) | (0.014) | (0.013) |
| *Employment status* | | | | | | | |
| - in part-time employment | 0.002 | -0.005 | -0.019 | 0.033 | 0.050* | -0.056* | -0.069** |
| | (0.004) | (0.004) | (0.021) | (0.022) | (0.021) | (0.022) | (0.022) |
| - economically inactive | -0.012*** | -0.018*** | -0.058*** | -0.031 | -0.027 | -0.084*** | -0.075*** |
| | (0.003) | (0.003) | (0.017) | (0.018) | (0.019) | (0.016) | (0.017) |
| - unemployed, no previous spell | -0.062*** | -0.058*** | -0.374*** | -0.274*** | -0.290*** | -0.400*** | -0.394*** |
| | (0.011) | (0.012) | (0.055) | (0.054) | (0.060) | (0.064) | (0.067) |
| - unemployed in past, not currently | -0.047*** | -0.040*** | -0.287*** | -0.277*** | -0.234*** | -0.285*** | -0.335*** |
| | (0.004) | (0.004) | (0.023) | (0.020) | (0.021) | (0.023) | (0.021) |
| - past + current unemployment | -0.069*** | -0.067*** | -0.453*** | -0.387*** | -0.296*** | -0.447*** | -0.543*** |
| | (0.008) | (0.006) | (0.040) | (0.034) | (0.037) | (0.039) | (0.037) |
| Country FE | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Ct.-specific trends | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Level 2 RE | | | | | | | |
| $\sigma^2(\nu)$ | 0.040*** | 0.018** | 0.252*** | 0.204*** | 0.139*** | 0.130*** | 0.128*** |
| $\sigma^2(\beta_{curr.\ unemp.})$ | 0.038 | 0.065* | 0.000 | 0.162 | 0.241 | 0.323 | 0.405* |
| $\sigma^2(\beta_{past\ unemp.})$ | 0.030** | 0.022* | 0.161** | 0.133** | 0.127* | 0.163** | 0.135** |
| $\sigma^2(\beta_{curr.+past\ unemp.})$ | 0.053** | 0.037* | 0.266** | 0.178* | 0.218* | 0.241** | 0.214* |
| Level 1 RE | | | | | | | |
| $\sigma^2(\varepsilon)$ | 0.188*** | 0.161*** | 4.795*** | 4.239*** | 4.087*** | 5.087*** | 4.842*** |
| Log-likelihood | -94,082 | -81,791 | -337,943 | -330,624 | -281,060 | -343,722 | -342,486 |
| N | 160,204 | 160,779 | 153,101 | 154,136 | 132,176 | 153,712 | 154,920 |

Notes: HLPM regression model, hybrid two-level random slope specification; dependent variable: Pr(at least "some trust") (GSS-ESS results) or average trust level on 11-point Likert scale (ESS only), additional individual-level controls: gender, age (polynomial), level of education, social class; employment status differentials relative to full-time employment. Cluster-corrected standard errors in parentheses, statistical significance levels indicated at * p<.10, ** p<.05, and *** p<.01.
Source: General Social Survey, European Social Survey 2002-2014

# APPENDIX A2

Macroeconomic shocks and personal unemployment history as determinants of political trust, mediation specification (M6) estimates

| | GSS-ESS dataset | | ESS only | | | | |
|---|---|---|---|---|---|---|---|
| | Parliament | Legal system | Parliament | Politicians | Political parties | Legal system | Police |
| Fixed effects | | | | | | | |
| Constant | 0.683*** | 0.771*** | 4.673*** | 3.732*** | 3.688*** | 5.427*** | 6.183*** |
| | (0.007) | (0.006) | (0.038) | (0.035) | (0.035) | (0.035) | (0.033) |
| Output gap | 0.001 | -0.001 | 0.011 | 0.016* | 0.004 | -0.001 | 0.011 |
| | (0.001) | (0.001) | (0.008) | (0.007) | (0.007) | (0.007) | (0.006) |
| Unemployment rate | -0.013*** | -0.003 | -0.083*** | -0.077*** | -0.060*** | -0.040** | -0.027* |
| | (0.003) | (0.002) | (0.017) | (0.015) | (0.014) | (0.014) | (0.012) |
| *Employment status* | | | | | | | |
| - unemployed, no previous spell | -0.015 | -0.018 | -0.042 | 0.017 | -0.030 | -0.064 | -0.074 |
| | (0.011) | (0.011) | (0.054) | (0.053) | (0.058) | (0.062) | (0.066) |
| - unemployed in past, not currently | -0.023*** | -0.018*** | -0.112*** | -0.117*** | -0.089*** | -0.103*** | -0.159*** |
| | (0.004) | (0.004) | (0.020) | (0.018) | (0.019) | (0.021) | (0.019) |
| - past + current unemployment | -0.009 | -0.012 | -0.002 | 0.012 | 0.060 | 0.019 | -0.103** |
| | (0.007) | (0.006) | (0.037) | (0.031) | (0.034) | (0.035) | (0.036) |
| Ln household equiv. income | 0.006* | 0.005** | 0.041*** | -0.019 | -0.017 | 0.024 | 0.001 |
| | (0.003) | (0.002) | (0.012) | (0.012) | (0.012) | (0.013) | (0.012) |
| Ln household income squared | 0.001 | 0.000 | 0.019*** | 0.013* | 0.008 | 0.015** | -0.007 |
| | (0.001) | (0.001) | (0.006) | (0.005) | (0.006) | (0.006) | (0.005) |
| Subj. income | -0.035*** | -0.023*** | -0.204*** | -0.212*** | -0.193*** | -0.196*** | -0.097*** |
| - m/l comfortable | (0.003) | (0.003) | (0.016) | (0.014) | (0.015) | (0.015) | (0.015) |
| Subj. income | -0.097*** | -0.079*** | -0.411*** | -0.427*** | -0.388*** | -0.361*** | -0.265*** |
| - difficult | (0.005) | (0.004) | (0.026) | (0.025) | (0.027) | (0.025) | (0.025) |
| Life satisfaction | -0.040*** | -0.038*** | 0.146*** | 0.132*** | 0.117*** | 0.175*** | 0.208*** |
| - pretty happy / linear | (0.004) | (0.003) | (0.006) | (0.006) | (0.006) | (0.006) | (0.005) |
| Life satisfaction | -0.166*** | -0.168*** | -0.016*** | -0.016*** | -0.015*** | -0.016*** | -0.005*** |
| - not too happy / sqr. | (0.006) | (0.006) | (0.001) | (0.001) | (0.001) | (0.001) | (0.001) |
| Level 2 RE | | | | | | | |
| $\sigma^2(\nu)$ | 0.032*** | 0.010 | 0.226*** | 0.194*** | 0.124*** | 0.114** | 0.113*** |
| $\sigma^2(\beta_{curr.\ unemp.})$ | 0.017 | 0.062 | 0.000 | 0.156 | 0.209 | 0.295 | 0.408* |
| $\sigma^2(\beta_{past\ unemp.})$ | 0.025* | 0.021* | 0.120* | 0.087 | 0.086 | 0.136** | 0.094 |
| $\sigma^2(\beta_{curr.+past\ unemp.})$ | 0.046** | 0.034 | 0.200* | 0.101 | 0.151 | 0.145 | 0.194* |
| Level 1 RE | | | | | | | |
| $\sigma^2(\varepsilon)$ | 0.184*** | 0.158*** | 4.603*** | 4.074*** | 3.955*** | 4.862*** | 4.620*** |
| Log-likelihood | -92,578 | -80,310 | -334,973 | -327,739 | -279,028 | -340,396 | -338,991 |
| N | 160,204 | 160,779 | 153,101 | 154,136 | 132,176 | 153,712 | 154,920 |

Notes: cf. notes to appendix table A1 for details; statistical significance levels indicated at * p<.10, ** p<.05, and *** p<.01.
Source: General Social Survey, European Social Survey 2002-2014

APPENDIX A3

The macroeconomics of political trust: interactions with social class and political position (core specification M3)

| | GSS-ESS dataset | | ESS only | | | | |
|---|---|---|---|---|---|---|---|
| | Parliament | Legal system | Parliament | Politicians | Political parties | Legal system | Police |
| *Economic threat channel* | | | | | | | |
| Unemployment rate | -0.0144*** | -0.0053** | -0.0980*** | -0.0872*** | -0.0711*** | -0.0595*** | -0.0367*** |
| | (0.0032) | (0.0022) | (0.0081) | (0.0158) | (0.0144) | (0.0143) | (0.0131) |
| Unemployment rate x social class (EGP, reference: professionals [EGP classes I, II]) | | | | | | | |
| - self-employed (IV) | -0.0005 | 0.0012 | 0.0089 | 0.0084 | 0.0094 | 0.0264*** | -0.0112* |
| | (0.0013) | (0.0012) | (0.0067) | (0.0058) | (0.0061) | (0.0070) | (0.0065) |
| - routine non-manual (III) | -0.0002 | 0.0016** | 0.0148*** | 0.0076* | 0.0113** | 0.0221*** | -0.0083* |
| | (0.0009) | (0.0008) | (0.0046) | (0.0043) | (0.0045) | (0.0047) | (0.0045) |
| - workers (V, VI, VII) | 0.0020** | 0.0017** | 0.0242*** | 0.0172*** | 0.0208*** | 0.0271*** | 0.0164*** |
| | (0.0009) | (0.0008) | (0.0048) | (0.0043) | (0.0044) | (0.0046) | (0.0044) |
| - EGP missing (i.e. economically inactive respondents) | 0.0002 | 0.0030*** | 0.0099 | 0.0059 | 0.0039 | 0.0154** | 0.0096 |
| | (0.0012) | (0.0011) | (0.0069) | (0.0060) | (0.0061) | (0.0069) | (0.0066) |
| Log-likelihood | -94,077 | -81,787 | -337,930 | -330,616 | -281,046 | -343,701 | -342,478 |
| N countries | 21 | 21 | 20 | 20 | 20 | 20 | 20 |
| N respondents | 160,204 | 160,779 | 153,101 | 154,136 | 132,176 | 153,712 | 154,920 |
| *Political failure channel* | | | | | | | |
| Unemployment rate | | | -0.0799*** | -0.0747*** | -0.0619*** | -0.0468*** | -0.0226* |
| | | | (0.0174) | (0.0157) | (0.0141) | (0.0135) | (0.0124) |
| Unemployment rate x self-placement on left-right scale | | | 0.0059** | 0.0035* | 0.0044** | 0.0076*** | 0.0055*** |
| | | | (0.0025) | (0.0020) | (0.0019) | (0.0020) | (0.0019) |
| Log-likelihood | | | -308,637 | -301,885 | -257,056 | -313,643 | -310,618 |
| N countries | | | 20 | 20 | 20 | 20 | 20 |
| N respondents | | | 140,982 | 141,659 | 121,639 | 141,271 | 142,039 |

Notes: HLPM regression model, hybrid two-level random slope specification (cf. Tables 1 and Appendix A1 for additional specification details); dependent variable: Pr(at least "some trust") (GSS-ESS results) or average trust level on 11-point Likert scale (ESS only), additional individual-level controls: gender, age (polynomial), level of education, social class; employment status differentials relative to full-time employment. Left-right placement measure not available in GSS data. Cluster-corrected standard errors in parentheses, statistical significance levels indicated at * p<.10, ** p<.05, and *** p<.01.

Source: General Social Survey, European Social Survey 2002-2014